



European Society of Gynecology

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## European Gynecology & Obstetrics

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# Opening Sessions



## Premature Ovarian Insufficiency

## Updated ESHRE POI guidelines: a global collaboration

Panay Nick (GB)

Imperial College London

Premature ovarian insufficiency (POI), defined as loss of ovarian function before age 40 years, affects 3.5% of women. POI occurring spontaneously or secondary to iatrogenic interventions has multiple adverse short-term and long-term psychological and physical effects including increased mortality. Management of POI is challenging, reflecting associated multi-morbidity and variability of this condition. Current evidence indicates delayed diagnosis, patient dissatisfaction with care, care variation, consumer and healthcare professional knowledge gaps, and sub-optimal health behaviors which contribute to poorer outcomes.

Development of the ESHRE 2024 POI guideline involved a partnership between ESHRE, the International Menopause Society, the American Society for Reproductive Medicine and the Centre of Research Excellence in Women's Health in Reproductive Life, Monash University, with simultaneous publication of the summary in *Climacteric*, *Fertility and Sterility* and *Human Reproduction Open*. Using ESHRE guideline development methodology with an integrity review of included RCTs, 145 recommendations related to 40 key questions (informed by a scoping review of consumers and HCPs) were developed regarding terminology, prevalence, symptoms, causation, sequelae and treatment of POI.

The updated guideline provides an evidence-based updated comprehensive clinical practice guide for healthcare professionals. The full guideline is available at <https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Premature-ovarian-insufficiency>. The summary will be translated into a number of languages in order to ensure maximum dissemination globally, and distribution will be facilitated by the IMS Council of Affiliated Menopause Societies (CAMS) network. Accompanying the guideline will be multiple co-designed resources for consumers and healthcare professionals, including the Ask Early Menopause app ([www.askearlymenopause.org](http://www.askearlymenopause.org)) and an update of the IMS Professional Activity for Refresher Training (IMPART) Level 2 module on POI. These tools will contribute positively to the implementation of the guideline, thus optimizing the understanding and effective management of this distressing condition.

Hot flushes: it's all in your head!

## Origin and impact of VMS: the enigma unravelled!

Panay Nick (GB)

Imperial College London

It is estimated that more than 1 billion women worldwide are older than 50 years. Approx 75% will experience adverse symptoms related to the menopausal transition e.g. vasomotor symptoms (VMS, hot flushes and night sweats), sleep disturbances and adverse mood symptoms that can have a negative impact upon daily activities and quality of life. There is also a link of VMS with CV disease; the impact of these symptoms is therefore not “benign.” The pathophysiological origin of VMS has been studied to develop novel therapies for these symptoms. The menopause is characterized by decreased estradiol levels due to ovarian insufficiency, and a resultant increase in GnRH secretion from the hypothalamus leading to high LH and FSH levels. A link between the initiation of the LH pulse and hot flushes has been reported. However, several studies involving estradiol administration and withdrawal in patients without elevated LH have shown they still experience VMS. Hot flushes can occur even in the absence of pulsatile GnRH or LH release, implicating involvement of upstream processes responsible for GnRH synthesis. The hypothalamic infundibular (arcuate) nucleus contains a group of sex steroid-responsive neurones that co-express kisspeptin, dynorphin as well as neurokinin B (NKB); the so-called ‘KNDy’ neurones. Morphologic studies have shown that KNDy neurones from postmenopausal women are hypertrophied; this is accompanied by elevated NKB, kisspeptin and substance P gene expression; but not dynorphin. These changes can be induced by oophorectomy and reversed by estrogen replacement. KNDy neurones, expressing NK 1 and 3 receptors are also linked to the medial preoptic nucleus of the hypothalamus which is the control centre for thermoregulation, and is responsive to both estrogen and ambient temperature. In the menopausal state, the KNDy neurones are in a state of hyperactivation (consistent with hypertrophy) which can disrupt baseline thermoregulation and trigger hot flushes. The thermoregulatory zone also narrows in menopause; fluctuation of core body temperature above the zone induces cooling mechanisms such as hot flushes and a drop in core body temperature below the zone results in heating mechanisms such as shivering. Modulation of the NK neurones is a viable therapeutic approach to controlling thermoregulation and specifically VMS. This will be discussed further in my lecture on “New perspectives for management of menopausal symptoms – NK antagonists”

# Key Lectures



OPTIMIZE HUMAN EMBRYO CULTURE TO IMPROVE SINGLE BLASTOCYST TRANSFER IN ASSISTED REPRODUCTIVE TREATMENTS

## **Optimize euman embryo culture to improve single blastocyst transfer in assisted reproductive treatments**

Sciorio Romualdo (CH)

Human infertility is a major global public health issue estimated to affect one out of six couples. In the last four decades the assisted reproductive technology (ART) field has witnessed outstanding advances, resulting in continuously improving pregnancy rate and diminishing complications, in particular reduced incidence of multiple births. These improvements are secondary to advanced knowledge on embryonic physiology and metabolism, resulting in the ability to design new and improved culture conditions. Indeed, the incubator represents only a surrogate of the oviduct and uterus, and the culture conditions are only imitating the physiological environment of the female reproductive tract. In-vivo, the embryo travels through a dynamic and changing environment from the oviduct to the uterus, while in-vitro the embryo is cultured in a static fashion. Importantly, while culture media play a critical role in optimize embryo development, a large host of additional factors are equally important. Additional potential variables, including but not limited to pH, temperature, osmolality, gas concentrations, light exposure need to be carefully controlled to prevent stress and permit optimal implantation potential. This lecture will provide an overview of how different current culture conditions and novel advancement in embryo culture may affect oocyte and embryo viability, with the goal to increase blastocyst formation and implantation potential.



Estrogen decline and its effect on hot flushes, mood and vaginal atrophy - The science, the DT56A and our ability to treat women

## **Estrogen decline and its effect on hot flushes, mood and vaginal atrophy - The science, the DT56A and our ability to treat women**

Genazzani Andrea (IT)

Estrogen decline during menopause and perimenopause leads to significant physiological and psychological changes, impacting women's quality of life. Common symptoms include vasomotor disturbances (hot flushes, night sweats), mood changes, and vaginal dryness. Hot flushes, affecting up to 80% of menopausal women, result from hypothalamic thermoregulatory dysfunction caused by estrogen withdrawal. This increases sensitivity to temperature fluctuations, disrupting daily life and sleep. Mood disturbances such as depression, anxiety, and irritability stem from altered neurosteroid production (e.g., allopregnanolone) and neurotransmitter activity (e.g., beta-endorphins), affecting serotonergic, dopaminergic, and opioidergic pathways.

Vaginal dryness, a hallmark of genitourinary syndrome of menopause, results from estrogen's role in maintaining vaginal elasticity, lubrication, and vascularization. Epithelium thinning and reduced secretions cause discomfort, dyspareunia, and infections, impacting sexual health and relationships.

Menopause hormone therapy (MHT) is a primary treatment for these symptoms. However, many women avoid MHT due to perceived risks, leaving them untreated. Healthcare providers must explore alternative therapies that offer MHT benefits without associated risks. DT56a (Femarelle®), a standardized botanical compound from soy, provides a non-hormonal alternative. Acting as a Selective Estrogen Receptor Modulator (SERM), it selectively binds to estrogen receptors, exerting agonistic effects in the brain and bones while acting antagonistically in breast and uterine tissues. This selective activity mimics estrogen's benefits without being recognized as estrogen by the body.

Clinical studies show that DT56a significantly reduces vasomotor symptoms and mood changes while promoting BMD, through osteoblast activation. It also supports vaginal health and alleviates atrophy. Importantly, research confirms DT56a does not affect clotting parameters in normal or thrombophilic patients and has no estrogenic effect on breast tissue, as demonstrated in the MCF-7 breast cancer model.

Understanding estrogen decline's multifactorial impact is key to developing effective treatment strategies. Femarelle serves as a first-line, non-hormonal option for managing menopausal symptoms. By offering a safe alternative, healthcare providers can foster open discussions, encouraging women to seek treatment and improve their quality of life.

5 years of independence of Reproductology as a medical discipline

## **5 years of independence of Reproductology as a medical discipline**

Khomasuridze Archil (GE)

We'd started thinking about the Project since 1990, after the first World Congress on Prevention of Abortion, held in Tbilisi with 134 participants Countries. Preparatory activities had continued until 1997, when the Georgian Prime Minister Mr. O.Cherkesia issued the state document awarding the Georgian Reproductology with the special index of independence -14.00.50.

This fact triggered the start of resistance of those, who were against de facto independence of our discipline. The process lasted until 2020, with wide and major activities of my colleagues and myself, like introduction of modern methods of diagnostics and treatment of infertility, including IVF ( The first "Tube-Baby" was born in 2000), laparoscopy, liquidation of huge prevalence of unsafe abortion, establishing and foundation the first departments of andrology, sexology, treatment of menopause and andropause, wide introduction of modern contraception etc.

The stugge above has successfully finished for us in 2020, when the Georgian Government officially, de jure, approved Reproductology as the Independent Medical Discipline, pioneering in the World. The some special, not final, details will be demonstrated in the presentation. They seen quite promising.

Challenges for breastfeeding in today's society. What can we do?

## **Challenges for breastfeeding in today's society. What can we do?**

Duro Gómez Jorge (ES)

There are few reasons to think that there is better nutrition for newborns than breastfeeding. Breastmilk contains carbohydrates, proteins, fats, vitamins, minerals, digestive enzymes, and hormones and is rich in immune cells, including macrophages, stem cells, and many other bioactive molecules. However, around 77 million newborns do not receive breast milk in the first hour after birth. Breastfeeding in the first days of life can influence the way certain genes are expressed, with effects that can last a lifetime. Nevertheless, sometimes it is not easy due to factors intrinsic to the family, the environment or sociopolitical factors. We are therefore faced with a stimulating challenge.

Precocious Puberty in Girls: Challenges and Consequences

## Precocious Puberty in Girls: Challenges and Consequences

Asanidze Elene (GE)

Precocious puberty (PP), defined as the onset of secondary sexual characteristics before age eight in girls, presents multifaceted challenges due to its heterogeneity and significant impact on growth, psychosocial development, and long-term health.

Central precocious puberty (CPP) results from premature activation of the hypothalamic-pituitary-gonadal axis, while peripheral precocious puberty (PPP) is gonadotropin-independent and often linked to hormone exposure, genetic syndromes, or tumors.

This study reviews recent advancements in the diagnosis and management of PP. The diagnostic approach begins with clinical evaluation, bone age assessment, ultrasound imaging, and hormonal analysis. The gonadotropin-releasing hormone (GnRH) stimulation test remains the gold standard for diagnosing CPP, although evidence increasingly supports the use of basal luteinizing hormone levels measured with highly sensitive assays. Elevated gonadotropins in CPP necessitate further investigations, such as brain MRI, to exclude organic causes.

In PPP, pelvic and adrenal imaging plays a critical role in identifying underlying etiologies and distinguishing progressive from non-progressive forms to prevent unnecessary interventions. Management strategies aim to mitigate the effects of premature sex steroid exposure and optimize adult height. GnRH analogs are the cornerstone of CPP treatment, while PPP management requires individualized approaches addressing specific causes. Psychological support is vital to address the emotional and social challenges associated with early puberty.

Future directions in precocious puberty care emphasize integrating genetic profiling and hormonal biomarkers into diagnostic and therapeutic workflows, creating opportunities for personalized treatment strategies. These innovations, coupled with a multidisciplinary, patient-centered approach, promise to enhance clinical outcomes and improve the overall quality of life for affected girls and their families.

# Meet the expert Sessions



Experts Panel: Fertility Preservation

## **Social fertility preservation: preventing or promoting the postponement of motherhood?**

Ferreira Ana Filipa (PT)

We are witnessing a global tendency to postpone motherhood. The mean age of women at birth of first child has been sharply rising and was 29.7 years in Europe, in 2022. Women are delaying motherhood for their late 30s and 40s in favor of consolidation of academic training, investment on a professional career, and achievement of professional and emotional stability.

Maternity delay to advanced ages is responsible for a higher number of couples experiencing infertility and electing Assisted Reproductive Technologies (ART) treatments to achieve pregnancy. Despite the advances in reproductive medicine, the impact of ART on fertility is limited owing to the age-related decline in pregnancy rates. Indeed, ART does not compensate for decreased oocyte quality associated with ovarian aging. Therefore, women rely on egg donation treatments to fulfill their reproductive project.

Social oocyte cryopreservation or elective egg freezing (EEF) is being used as a strategy to prevent the age-related fertility decline. However, it is questionable to advocate this procedure with the false guarantee that the woman can delay motherhood. The efficacy and safety of oocyte cryopreservation has been well demonstrated. EEF has the advantage of enhancing reproductive autonomy and promoting social and gender equity. However, the high costs of oocyte cryopreservation in association with a low return usage-rate can result in a low cost-effective procedure. Some authors advocate EEF to women with a higher risk of subfertility, which is challenging due to lack of reliable functional ovarian biomarkers.

EEF implies a two-step procedure, with oocyte cryopreservation necessarily followed by in vitro fertilization and embryo transfer, which is another limitation of EEF. Future fertility cannot be guaranteed and there is the risk of a false hope for future pregnancy.

Ethical concerns have been pointed out concerning the medicalization of reproduction and the promotion of the postponement of motherhood. On the other hand, some authors hold a positive view and regard EEF as a reproductive insurance.

The interest of women is reflected on the exponential rise in oocyte cryopreservation cycles across countries. Societal implications, legislation and public funding have been a matter of public debate. Opinions diverge across the different disciplines involved, including physicians, ethicists, psychologists, embryologists, and are influenced by ethical, economic, cultural and religious views.

Obesity

## Obesity and menopause

ANDRZEJ JAN MILEWICZ (PL)

University of Medicine Wrocław

During climacterium the fat redistribution with increase visceral fat deposit in comparison to subcutaneous deposit as well as cumulation in the liver and muscles was observed. The most important cause of menopausal visceral obesity is estradiol deficit with lower ratio between E2 and androgens.

Visceral obesity created high risk for cardiometabolic disorders because of insulin resistance and endocrine dependent cancer. We must remember also about nonalcoholic fatty liver disease risk and gout. Wegovy ( semaglutid ) it is a new very optimistic medicine for menopausal women with obesity not only with diabetes t.2 and NAFLD . If menopausal women with cardiometabolic risk need MHT only transdermal route is recommended.

## Breast Cancer

## Membrane-bound steroid receptors as markers to predict breast cancer risk during HRT

Mueck Alfred (DE), Ruan Xiangyan (CN)

[Mueck] University of Tuebingen, Germany and Capital Medical University of Beijing, China, [Ruan] Beijing Obstetrics and Gynecology Hospital, Capital Medical University, China

We established special membrane-bound steroid-receptors as new tumormarkers predicting breast cancer (BC) risk which are mediators for progestogens to increase estrogen-dependent BC-proliferation. This is a still ongoing systematic collaboration project of the University of Tuebingen (Germany) and Capital Medical University (China), already performed within the last 15 years. We found that a certain component of those receptors (ProGesterone Receptor Membrane Component 1, PGRMC1) is increased in the tissue and blood of BC patients obviously containing the main genetic messages for steroid-membrane-receptor dependent mechanisms. We were encouraged for our research due to Editorials on our first studies, suggesting, that the results in WHI could be explained by overexpression of PGRMC1 in a larger part of the study-population (Menopause 2011;18:833-834; 2013; 20: 486-487). We started with 1) in-vitro experiments in different breast cancer cells (e.g. Menopause 2005;12:468-474; 2011;18:845-850; 2013;20:504-510; Maturitas 2013;76:129-133; Climacteric 2012;15:467-472; 2013;16:509-513; Gynecol Endocr 2012;28:863-866; 2013;29:160-163; Oncotarget 2017;8:72480-72493), we continued with animal studies (Maturitas 2017;102:26-33; 2019;123:1-8; Gynecol Endocr 2020;36:1024-1027), and finally we performed clinical studies with breast cancer patients (Menopause 2017;24:203-209; 2020;27:183-193; Maturitas 2020;140:64-71; Climacteric 2022;25:467-475). In-vitro and animal studies showed dose- and time-dependent BC-cell proliferations with estradiol and synthetic progestogens mostly significant only in presence of PGRMC1, but not with progesterone and dydrogesterone. In our clinical studies PGRMC1-expression in BC-tissue and levels in the blood could be correlated to clinical tumor characteristics like larger tumor diameter, higher grade and metastatic status, poorer disease-free and overall survival, with better prediction of the prognosis compared to tumor markers such as CEA, CA125, CA153 and TPS. After calculating sensitivity and specificity we assessed a cut-value for PGRMC1, which now can be used for routine screening before start of HRT. So at least for one of the important mechanisms of hormone-dependent BC-development we have got a practical tool to optimize HRT for reducing the risk of BC: We recommend patients with higher blood levels not to treat with HRT or only using estradiol combined with progesterone or dydrogesterone during carefully monitoring this therapy.



## Breast Cancer

## Development of new tumour markers to predict the prognosis of breast cancer patients

Ruan Xiangyan (CN), Alfred O.Mueck (DE)

[Ruan] Department of Gynecological Endocrinology, Beijing Obstetrics and Gynecology Hospital, Capital Medical University, Beijing Maternal and Child Health Care Hospital, Beijing, China.

[Mueck] University Women's Hospital and Research Centre for Women's Health, Centre for Women's Health, Department of Women's Health, University of Tuebingen, Tuebingen, Germany.

Beijing Obstetrics and Gynecology Hospital, Capital Medical University (China) and University of Tuebingen (Germany) have collaborated on systematic research to establish membrane-bound steroid receptors as novel tumor markers for predicting breast cancer patients' prognosis. According to our study, we discovered that a specific component of these receptors (Progesterone Receptor Membrane Component 1, PGRMC1) is overexpressed in breast cancer patients' tissues. PGRMC1 contains genetic information about steroid-membrane-receptor-dependent mechanisms that differ when used with various progestogens in terms of their action. We finished in-vitro experiments on a variety of breast cancer cells, performed animal studies, and finally we did clinical studies on breast cancer patients. In-vitro studies demonstrated that dose- and time-dependent breast cancer cell proliferations with all available synthetic progestogens but not with progesterone, but mostly significant only in the presence of PGRMC1.

Within different animal xenograft studies we could confirm that synthetic progestogens but not progesterone and dydrogesterone increased E2-induced animal tumor proliferation. In our clinical studies expression of PGRMC1 in breast cancer patients' tissues could be correlated to tumor characteristics like tumor diameter, grade and metastatic status. And patients with higher levels of PGRMC1 had poorer disease-free and overall survival, and we already correlated blood-levels of PGRMC1 to expression in BC-tissue demonstrating PGRMC1 expression in cancer tissue was significantly associated with PGRMC1 in blood. Concentrations in blood were also positively associated with breast tumor characteristics to predict a worse prognosis, such as tumor diameter, tumor grade, and metastatic status and PGRMC1 to be superior to tumor markers such as CEA, CA125, CA153 and TPS. In conclusion, PGRMC1 can be one of the new tumor markers to predict BC patients' prognosis, already well demonstrated in BC patients.

What does the future hold for endometriosis treatment?

## **The past, present and future of medical treatment of endometriosis**

Horne Andrew (GB)

This lecture will provide an overview of the historical trajectory of medical treatments for endometriosis, discuss the current best practices supported by recent evidence, and explore innovative approaches being investigated in our laboratory at the University of Edinburgh to address the unmet clinical needs of patients. Currently, treatment options are diverse and tailored to individual patient profiles. Hormonal therapies such as oral contraceptives, progestins, GnRH agonists and the newer antagonists continue to be cornerstone treatments. Non-hormonal options, such as the use of anti-inflammatory agents and analgesics, also play a role in symptom management, although they are generally adjunctive to hormone-based therapies. Our research at the University of Edinburgh is exploring the potential of targeted biological therapies, including therapies aimed at correcting the altered peritoneal microenvironment in endometriosis and immunomodulatory agents. These promising approaches could offer more precise treatments with fewer systemic effects. The future of treatment lies in a more personalised, precision-medicine approach that addresses not just symptom relief but also the underlying pathophysiology of the disease.

What does the future hold for endometriosis treatment?

## **How do we use GnRH-antagonist combination therapy in everyday clinical practice**

Rius Dorca Mariona (ES)

How do we use the new combination therapy in everyday clinical practice for treating endometriosis?

Endometriosis is a chronic inflammatory hormonal-dependent disease characterized by the presence of endometrial tissue outside the uterus, causing a wide range of symptoms, from dysmenorrhea, dyspareunia to pelvic pain and infertility. Treatment for endometriosis is limited to surgical removal of the lesions, which does not avoid the recurrence, and hormonal treatment. New hormonal treatments are now available, showing promising results in managing pain in these women. The main objective of this talk is to show how we are using these new drugs in a daily basis and what we can expect in real case scenarios.

# Symposia



Adenomyosis and Endometriosis: Individualization of therapies

## **Novel aspects on the pathomechanisms of adenomyosis and endometriosis**

Kiesel Ludwig (DE)

Adenomyosis and endometriosis are chronic conditions affecting reproductive-aged women, characterized by the growth of ectopic endometrial tissue. There is a significant prevalence of both diseases co-occurring in women. They both share similar symptoms as well as many molecular changes.

Adenomyosis may present clinically as heavy menstrual bleeding, dysmenorrhea, infertility and recurrent pregnancy losses. The precise etiology and pathogenesis remain unclear. The tissue injury and repair theory is now widely accepted and suggests that uterine hyperperistalsis is playing a role. Recently, a putative stem cell-like population termed pale cells in the endometrial-myometrial interface in adenomyosis has been demonstrated. One of the stemness-related proteins are syndecans that act as coreceptors for ligands relevant in the menstrual cycle. In our studies these proteins were downregulated and may therefore be involved in the pathogenesis of adenomyosis.

The pathogenesis of endometriosis is equally enigmatic as that of adenomyosis. Various theories, including the widely accepted Sampson's theory of retrograde menstruation, suggest that endometrial tissue fragments, cells, and protein-rich fluid can reflux through the fallopian tubes, ultimately reaching the peritoneal cavity, particularly within the pelvis. These cells utilize a molecular strategy to adhere to the serosal surface and endure initial ischemic conditions. Elevated levels of inflammatory mediators, hormones, and immune cells are observed in the tissue microenvironment and peritoneal fluid of patients with endometriosis. These components contribute to survival, implantation, invasion, angiogenesis, and immunosurveillance evasion in endometriotic lesions. The immune system perceives the misplaced endometrium as foreign, triggering an inflammatory response, aided by the high iron content in menstrual blood. Ferroptosis, an iron-dependent form of non-apoptotic cell death, plays a pivotal role in various diseases and is gaining considerable attention in the realm of endometriosis. In a retrospective case-control study we have assessed the expression and tissue distribution of established ferroptosis markers. Our study revealed a significant downregulation of ferroptosis markers in stromal cells of endometriosis patients. We hypothesize that ferroptosis, potentially driven by increased iron content at ectopic sites, may contribute to the progression of endometriosis.

Adenomyosis and Endometriosis: Individualization of therapies

## Medical treatment for adenomyosis and endometriosis

Luisi Stefano (IT)

Endometriosis and adenomyosis are benign uterine conditions affecting women at various ages with different symptoms. Medical treatment plays an important role in the management, especially in diffuse forms and in those women requiring preservation or restoration of fertility. Medical treatments are effective in improving symptoms: pain, abnormal uterine bleeding and infertility, resulting very frequently in a more acceptable option than surgical treatment. The rationale for using medical treatment is based on the pathogenetic mechanisms of the diseases: sex steroid hormones aberrations, impaired apoptosis, and increased inflammation. Hormonal treatments (progestins, oral contraceptives, gonadotropin-releasing hormone analogues) are currently used off-label to control pain symptoms and abnormal uterine bleeding. An antiproliferative and anti-inflammatory effect of progestins, such as dienogest, danazol and norethindrone acetate, suggests their use in medical management mainly to control pain symptoms. On the other hand, the intra-uterine device releasing levonorgestrel resulted is extremely effective in resolving abnormal uterine bleeding and reducing uterine volume in a long-term management plan. In conclusion, based on new findings on pathogenetic mechanisms, new drugs are under development for the treatment of endometriosis, adenomyosis such as selective progesterone receptor modulators, aromatase inhibitors, valproic acid, and anti-platelets therapy.

Adenomyosis and Endometriosis: Individualization of therapies

## **Surgery for deep endometriosis when and how**

Angioni Stefano (IT)

Deep infiltrating endometriosis (DIE) is the most aggressive of the three phenotypes that constitute endometriosis. It can affect the whole pelvis, subverting the anatomy and functionality of vital organs, with an important negative impact on the patient's quality of life. The choice of the best therapeutic approach for women with DIE is often challenging.

Therapeutic options include medical and surgical treatment, and the decision should be dictated by the patient's medical history, disease stage, symptom severity, and personal choice.

Medical therapy can control the symptoms and stop the development of pathology, keeping in mind the side effects derived from a long-term treatment and the risk of recurrence once suspended. Surgical treatment of DIE is indicated in patients who do not respond to medical therapy and have significantly severe symptoms (e.g., hydronephrosis caused by ureteral stenosis or intestinal obstruction). The goal is complete eradication of this pathology and the achievement of good long-term outcomes in terms of pain relief and recurrence rates, while trying to respect the functional anatomy of the involved organs.

Because of the complexity of surgery, a multidisciplinary approach that involves colorectal surgeons and urologists is often essential to reduce the risk of complications and the hospital stay. Most rectovaginal septum lesions arise from the posterior vaginal fornix and subsequently infiltrate the anterior rectal wall. The surgical approach for this kind of lesion can be conservative and include nodulectomy and shaving of the lesion, discoid excision, or, in selected cases, radical surgery where the involved intestinal tract is resected. Small/mid-rectal nodules that only infiltrate the muscular layer and are free of advanced stenosis of the rectal lumen can be completely removed without opening the bowel.

Adenomyosis and Endometriosis: Individualization of therapies

## ART outcomes in women with endometriosis

Yoldemir Tevfik (TR)

Marmara University

Recent teachings suggest that endometriosis itself does not significantly affect success rates, including embryo quality and ploidy, as well as the implantation rate. The outcomes of IVF treatments in patients with endometriosis are comparable to those of control groups, particularly in the context of frozen embryo transfer (FET) conducted during hormonally replaced therapy. Pretreatment hormonal therapies and surgical excision of endometriosis before ET should not be routinely recommended to improve implantation rates. Endometriosis per se does not have a major impact on folliculogenesis.

The observed detrimental effect of surgery on the risk of unexpected poor response may reflect an increased difficulty in the oocyte retrieval procedure.

Endometriosis is unremarkable to ovarian response. A reduction in the response to ovarian stimulation can be detected only for endometriomas larger than 4 cm. The follicular steroidogenesis is unaffected. Oocyte quality is preserved. The fertilization rate is similar, making ICSI unjustifiable. Embryological development does not differ from other forms of infertility, with no surge in aneuploidy rate. Women with endometriosis, including severe stages and endometriomas had similar rates of embryo formation, cleavage embryos, and high-quality embryos compared with the control group. Endometrial receptivity is not or minimally reduced. To note, the most informative studies supporting this perspective did not exclude women with adenomyosis, a main confounder that was expected to lower the success of the procedure.

This further strengthens the idea that women with endometriosis should not be considered at increased risk of implantation failure. AMH, antral follicle count, body mass index, and any previous ovarian response should be considered for stimulation protocol. Hormonal suppression with GnRH agonists before an IVF cycle has no significant differences in terms of the number of oocytes and embryos as well as clinical results. The pregnancy, and live birth rates in patients with endometriosis are similar between GnRH agonists and GnRH antagonists treatment options. The stimulation protocol should be discussed with the patient. Studies comparing progestin-primed ovarian stimulation (PPOS) vs. GnRH antagonist protocols reported a similar number of retrieved oocytes in both study groups, concluding that the PPOS protocol could be a good alternative in women with endometriosis when a fresh embryo transfer is not planned.



## MANAGEMENT OF MENOPAUSAL SYMPTOMS - PAST, PRESENT, FUTURE

## New perspectives for management of menopausal symptoms - NK antagonists

Panay Nick (GB)

Imperial College London

In menopause KNDy neurones are in a state of hyperactivation and hypertrophy, which can disrupt baseline thermoregulation and trigger hot flushes. Therefore, modulation of KNDy neurones provides a viable therapeutic approach to controlling hot flushes. Clinical evidence supporting this hypothesis originated from a study of healthy women in which intravenous infusion of Neurokinin B (endogenous ligand that binds NK3 receptor) acutely induced hot flushes. A role for Substance P and NK1 receptors in the control of menopausal disorders is also supported by evidence that indicates that the SP/NK1 receptor system modulates KNDy neurones in unison with the NKB/NK3 system. Over the last few years, a series of phase 2 and 3 clinical trials with the NK1/3 receptor antagonist elinzanetant and the NK3 receptor antagonist fezolinetant have confirmed efficacy by demonstrating significant, clinically meaningful improvements in VMS compared to placebo. The NK receptor antagonists have also demonstrated improvements in sleep parameters, depressive symptoms and menopause related quality of life. Fezolinetant is now licensed for treatment of VMS in a number of countries, and it is expected that elinzanetant will soon follow suit. There have generally been minimal adverse effects, such as fatigue and headaches. There have been no cases of liver enzyme elevations meeting criteria for liver injury as assessed by liver safety monitoring boards in the phase 3 clinical trials. A recent case of transient liver injury with full recovery was reported outside of these trials with fezolinetant; it is recommended that liver enzymes are monitored at baseline and during use in women prescribed fezolinetant. There has been no detectable hormonal effect on the endometrium or adverse effect on mammography with either NK receptor antagonist. A recent 12 month phase 3 clinical trial of elinzanetant in women on aromatase inhibitors or tamoxifen met all primary and secondary endpoints with a favourable safety profile; longer term observational parameters are now being studied. With a few exceptions, most other non hormonal 'alternatives' for menopausal problems are off license, and have limited efficacy and adverse effects. NK receptor antagonists have the potential to address unmet need in women with distressing VMS who choose not to use MHT, or are contraindicated to MHT. NK receptor antagonists are also an option where there is reluctance to initiate MHT e.g. smokers, older age, elevated BMI.

PLACENTA ACCRETA SPECTRUM (PAS) AND SPECIAL LECTURE ON NIPT

## How to make the prenatal assessment for PAS at best?

Frederic Chantraine (BE)

Placenta Accreta Spectrum (PAS) is a rare but potential severe pregnancy complication that requires accurate prenatal assessment for optimal management.

This lecture outlines recommendations to make the prenatal assessment for PAS at best. Ultrasound remains the primary screening tool for PAS, with a high sensitivity and specificity in trained hands. Screening should ideally occur between 22-24 weeks of gestation, with follow-up scans at 28-30 and 32-34 weeks. First ultrasound signs could also be detected as early as in the first trimester.

Risk stratification is crucial, with previous caesarean delivery and placenta previa being the most significant risk factors. For PAS patients, a multidisciplinary approach involving experienced obstetricians, surgeons, anesthetists, radiologists, and histopathologists is recommended.

While ultrasound is the gold standard, MRI can be useful in cases with ambiguous ultrasound findings or suspected parametrial invasion. The place of serological markers is debated and needs further research.

Accurate prenatal screening and assessment allows for planned management by a specialized team in a tertiary centre, significantly reducing morbidity compared to intrapartum diagnosis.

## PLACENTA ACCRETA SPECTRUM (PAS) AND SPECIAL LECTURE ON NIPT

**Vasa praevia: where are we now?**

Vedmedovska Natalija (LV)

Vasa previa is a rare but potentially dangerous condition in which fetal blood vessels traverse the lower part of the uterus near the cervix, without being protected by the placenta or umbilical cord. This exposes them to the risk of rupture during labor. The condition occurs in approximately 1 in 1,200 to 1 in 5,000 deliveries. A favorable outcome depends on early and accurate prenatal diagnosis. Recently, three distinct types of vasa previa have been described, these include:

Type I: A single placental lobe with velamentous cord insertion, where the fetal blood vessels cross the cervical os without being protected by the placenta or umbilical cord.

Type II: Vessels that traverse the cervix are connected between the lobes of a multilobed placenta, again lacking the protective coverage of the placenta or cord.

Type III: This newly described type refers to cases where the vessels are located within the placental membranes but are still near or over the cervix, potentially crossing it without the usual protective structures.

The main risk factors for vasa previa include low-lying placenta, velamentous cord insertion, bilobed or succenturiate placenta, in-vitro fertilization (IVF), and multiple gestation. The typical approach to managing vasa previa involves admitting the patient to the hospital between 28-32 weeks of gestation, followed by a Caesarean delivery at 34-37 weeks. Limited data are available on maternal and neonatal outcomes for patients with Type II/III vasa previa who undergo fetoscopic laser ablation (FLA). However, the available results are encouraging, suggesting that FLA for these types of vasa previa may facilitate vaginal delivery and lead to better neonatal outcomes, such as increased gestational age, reduced NICU admissions, fewer neonatal blood transfusions, and shorter hospital stays. Currently, there are no standardized guidelines for routine screening in all pregnancies, and given the data on risk factors for vasa previa, this policy should be reviewed.

PLACENTA ACCRETA SPECTRUM (PAS) AND SPECIAL LECTURE ON NIPT

## Update on Non-Invasive Prenatal Testing (NIPT)

Holzgreve Wolfgang (DE)

Since the late 90ies cell-free fetal DNA from the circulating blood of pregnant women is used for the prenatal detection of chromosomal and single gene abnormalities in millions of cases worldwide. This is by far now the most reliable screening test in early pregnancy and collectively has led to a reduction of about 70% invasive procedures.

Since this technology is not only offered worldwide by academic and public institutions but especially by private companies on the basis of patents. It is therefore not surprising that there are occasionally legal disputes about infringement of patents and licensing issues. The development of NIPT, however, is a good example for the public and private cooperation for the benefit of the consumer. For them to make their own decisions taking not only the medical but also the ethical dimensions into account proper counselling has to be guaranteed about the complex facts and choices.

Challenging patients in ART

## Indication for or against fertility preservation

Von Wolff Michael ()

Fertility preservation prior to cancer treatment has been established in many countries over the last 20 years. Freezing of oocytes or ovarian tissue can now be offered to many cancer patients.

However, indications for or against fertility preservation still need to be sharpened to avoid under-treatment but also over-treatment, which both might impose health risks and unnecessary costs.

The lecture will therefore introduce different sources to retrieve detailed information on gonadotoxicity of chemotherapies. The lecture will then provide data on risk of infertility in the ten most common disease groups based on the study FertiTOX ([www.fertitox.com](http://www.fertitox.com)). Finally, practical recommendations for or against fertility preservation are provided including the concept of secondary fertility preservation.

Gynecological Oncology

## Cervical cancer screening: quo vadis?

Žodžika Jana (LV)

Rīga Stradiņš university; Rīga East University Hospital

Cervical cancer screening has undergone significant evolution, transitioning from conventional cytology to high-risk human papillomavirus (HPV) testing, with emerging strategies integrating molecular biomarkers and artificial intelligence. While HPV vaccination promises to reduce disease incidence, effective screening remains crucial for early detection and prevention. The role of self-sampling, risk-based stratification, and digital technologies in improving accessibility and accuracy are the future directions in cervical cancer screening. The optimal balance between efficiency, cost-effectiveness, and population-wide impact should be considered within healthcare systems.

Gynecological Oncology

## From molecular classification to clinical practice in endometrial cancer: what's new?

Giannini Andrea (IT)

Endometrial carcinomas (EC) are the sixth most common cancer in women worldwide and the most prevalent in the developed world. ECs have been historically sub-classified in two major groups, type I and type II, based primarily on histopathological characteristics. Notwithstanding the usefulness of such classification in the clinics, until now it failed to adequately stratify patients preoperatively into low- or high-risk groups. Growing and emerging literature undelights that molecular assessment and characterization could also serve as a base for better patients' risk stratification and treatment decision-making.

The Cancer Genome Atlas (TCGA), back in 2013, redefined EC into four main molecular subgroups.

Despite the high hopes that welcomed the possibility to incorporate molecular features into practice, currently they have not been systematically applied in the clinics. This presentation aims to point out on how the emerging molecular patterns can be used as prognostic factors together with tumor histopathology and grade, and how they can help to identify high-risk EC subpopulations for better risk stratification and treatment strategy improvement. In details, to focus on the prognostic Impact within High-Risk EC (HR-EC), treatment benefit in HR-ECs under the influence of TCGA molecular subtypes and the potential clinic-molecular guided risk Stratification and treatment benefit in HR-ECs. Finally, considering the irrelevance of the use of preclinical models in translational research, we also debate how the new patient-derived models can help in identifying novel potential targets and help in treatment decisions.

## Gynecological Oncology

## Updates in breast cancer oncoplastic surgery

Zervoudis Stefanos (GR)

Rea Maternity Hospital, Athens, Greece and University of Ioannina, Ioannina, Greece and University of West Attica, Athens, Greece

Breast cancer surgery has evolved significantly. The first wave was conservative surgery in the 1970s. More recently, the second wave, oncoplastic surgery, combines the oncological procedure with the cosmetic aspect. Moreover, oncoplastic surgery allows wider surgical margins, reduces the local recurrences, improves and optimizes cosmetic outcome proceeding to cosmetic corrections, accomplished by oncological surgery procedure. In level 1, the skin is undermined, and the nipple-areolar complex is re-centered, allowing better glandular reapproximation. On the contrary, in level 2, we remove 20% to 50% of the breast volume using the techniques of volume displacement and volume replacement. More than 12 major techniques are adapted depending on the tumor's localization, leading to the concept of "each quadrant, each technique."

We describe the techniques of superior pedicle mammoplasty Mac-Kissok-like and the inferior pedicle, the round block Donut technique of Benelli, the racket techniques, internal and external of Mouly Dufourmentel, the batwing Omega technique for superior lesions and the vertical technique of Lejour for inferior central lesions. In cases of larger and lateral tumors we can perform the mammoplasty G or L; for very central lesions, the Grizotti technique; for very low lesions near the submammary line we can use the procedure of Aljarraha -Nos and for large external lesions instead of the racket technique we propose the Halfmoon lateral Crescent Zervoudis technique. Other procedures, more complicated include the Shutter technique, flaps rotation like Holmstrom, Mammoplasty with disguised geometry compensation of Paulinelli, and the BEBA Omelette Zervoudis technique. These techniques are indicated in the case of very large resection allowing a very good cosmetic result and avoiding mastectomy. In these procedures, symmetrization of the other side is frequently necessary.

Oncoplastic breast surgery presents a low rate of complications, but special care of the feeding vessels is mandatory to avoid fat or NAC necrosis. Globally, oncoplastic surgery allows clear margins in more than 92% of cases, with a very low rate of recurrence and morbidity. Moreover, the very good cosmetic results and the oncological safety leads to a very high rate of satisfaction in patients and physicians. Therefore, training breast surgeons in oncoplastic surgery is essential.



## Menopause

## Tailored HRT using bodyidentical hormones: improving the results and lowering the risks

Brincat Mark Paul (MT)

Hormone replacement therapy (HRT) is the treatment of choice for vasomotor menopausal symptoms. Other advantages include improved bone and connective tissue health with studies reporting decreased bone mineral density resorption in the vertebral spine as well as increased carotid artery medial wall thickness with HRT use.

Bioidentical HRT refers to the use of molecules that are identical to the native endogenously produced oestrogen and progesterone. These were classically plant-derived and modified such as to resemble the body's natural oestrogen and progesterone. Hence they have been classically termed naturaceuticals. Bioidentical hormones would include estradiol (E2) in all its formulations as well as the relatively new estetrol (E4).

Amongst the many advantages of the new body-identical hormone estetrol is the agonistic activity on the bone, vagina, endometrium and heart, whilst having an antagonistic action on the breast and a neutral effect on the liver. This helps to avoid the risk of breast cancer and the increase in serum triglycerides. However, this has yet to be proven in long-term studies.

HRT has been associated with an increased risk of venous thrombo-embolism and breast cancer. There is evidence to suggest that the risk of venous thrombo-embolism is lower for the native estrogens than the conjugated equine oestrogen-containing HRT.

A particular study reported the most highly increased risk of breast cancer when native estrogens were used in combination regimens with synthetic progestins.

Bioidentical HRT seems to have a reduced side effect profile compared to the synthetically derived HRT, whilst offering the maximal benefit. The pharmacologic properties of estetrol attest to this. More studies are needed to evaluate the use of estetrol-containing HRT regimens in treating vasomotor symptoms.

## Menopause

**Breast and endometrial safety of natural progesterone compared to progestogen in menopausal hormone therapy**

Hirschberg Angelica Lindén (SE)

There is a great need to find safe menopausal hormone therapy (MHT) able to control excessive endometrial stimulation from the estrogen component without stimulatory effects on the breast by the combination of estrogen/progestogens. Observational studies indicate a lower risk of breast cancer using micronized progesterone (mP) compared to synthetic progestins in combination with estrogen. On the other hand, observational studies indicate a higher risk of endometrial cancer with mP compared to progestins, whereas randomized trials have shown adequate endometrial safety with mP combined with estrogen. Recent international guidelines recognize combinations with mP as potentially safer than progestogens for the breast but data from randomized trials is requested. There is a need to obtain increased knowledge from randomized controlled trials about the balance between breast and endometrial safety of mP versus progestins in combination with estrogen. Based on this background we developed a study protocol for the PROBES study: Breast and endometrial safety of micronized progesterone versus norethisterone acetate in menopausal hormone therapy. The aim of this double-blind, multi-center, randomized, controlled trial is to compare the effects of 12-month treatment with mP (100 mg) versus NETA (0.5 mg), both in continuous combination with estradiol (1 mg), on breast and endometrial safety in 520 healthy postmenopausal women. The primary outcome is mammographic breast density as this is the strongest independent risk factor for breast cancer. Endometrial safety will be evaluated as a composite measure of endometrial hyperplasia and cancer. The study, which is ongoing, is expected to provide increased knowledge about breast and endometrial safety with micronized progesterone compared to progestin in continuous combination with estrogen. Today's evidence of breast and endometrial safety using natural progesterone compared to synthetic progestins in MHT will be discussed.

Art: Problems And Solutions

## **The effect of endometrial scratching on biomarkers of endometrial receptivity in IVF cycle**

Gricius Rimantas (LT)

Vilnius University Hospital Santaros Clinics

The field of infertility treatment is continuously advancing, leading to increased accessibility and utilization of assisted reproductive technologies. However, embryo implantation failure is one of the reasons why ART is not always successful in fertility treatment. Endometrium scratching (ES) has been proposed to increase the likelihood of embryo implantation. There has been a debate in whether this method improves rates of fertility. The precise mechanisms of this procedure are yet not clear. Some studies have proposed that ES increases cytokine levels such as IL-15, IL-17, TNF- $\alpha$  in the endometrium to maintain inflammatory state, necessary for embryo implantation (3,4). Moreover, it was shown that protein osteopontin may increase angiogenesis and aid in fertility success (5). Altered gene expression is also one of the proposed mechanisms in how ES may help to increase embryo implantation. However, there are some concerns in how this treatment method may assist in successful fertilization.

Several meta-analyses have been conducted but there is still no consensus on the impact of significance of endometrial scratching on ART results.

The procedure is generally safe, with mild and transient adverse events, and does not appear to influence adverse prenatal or birth outcomes. The effectiveness of endometrial scratching in unselected patients remains uncertain. However, emerging evidence suggests it may benefit women with recurrent implantation failure, likely due to compromised endometrial receptivity, highlighting the need for further research in this specific subgroup.

Art: Problems And Solutions

## **Perspective in endometrial – factor induced infertility: stem cell therapy**

Baušytė Raminta (LT)

Vilnius University Hospital Santaros Klinikos

Fertility disorders are a significant health problem. According to the latest data from the World Health Organization (WHO), approximately one in six people of reproductive age around the world experiences some fertility disorder at least once in their lives. The WHO lists infertility as the fifth leading global disability for young people.

Infertility treatment is one of the fastest-growing medical specialties. Still, it is estimated that 30–40% of all couples remain childless for five years from diagnosis from diagnosis nevertheless treatment. One of the main reasons for this, and at the same time the most challenging in the fields of reproductive medicine, is endometrial disorders related to the pathology of blastocyst implantation. In such cases, stem cell therapy is increasingly being considered.

The positive results of stem cell-based therapy in other medical fields have led to the launch of researchers on its potential for the treatment of fertility disorders caused by endometrial pathology. Mesenchymal stem/stromal cells (MSCs) have received the most attention due to their high potential for multilineage differentiation, self-renewal, sustained proliferation and paracrine activity, along with their immunomodulatory activity and avoidance of ethical dilemmas.

Currently, a growing number of studies suggest that MSCs isolated from samples of endometrial tissue (endometrial-derived MSCs) and MSCs isolated from samples of menstrual blood (menstrual blood-derived MSCs) can provide a promising path toward correcting infertility caused by endometrial pathology (intrauterine adhesion, thin endometrium, etc.) and, more generally, autologous regenerative medicine. In particular, menstrual blood-derived MSCs are receiving much attention due to the relatively easy method of collecting large volumes of cells without invasive procedures.

The results of the scientific research confirm the potential of using endometrial-derived and menstrual blood-derived MSCs therapy to correct fertility disorders caused by endometrial pathology, the use of these cells in other experimental models of infertility, and provide a basis for creating new biotechnology solutions and developing previous ones. Moreover, the multifacetedness of the infertility problem and the necessity of the cooperation of a multidisciplinary team of specialists to achieve optimal results in the diagnosis and treatment of fertility disorders are highlighted in this field.

Art: Problems And Solutions

## **Oocyte donation in women with Turner syndrome: what are the risks**

Ott Johannes (AT)

Medical University of Vienna

In the majority of cases, women with Turner syndrome (TS) suffer from premature ovarian insufficiency (POI), i.e. hypergonadotropic hypogonadism, due to ovarian dysgenesis and therefore infertility. For many affected patients, infertility is a stressful situation. In recent decades, egg donation has become the standard option in many countries for women with POI and therefore also for women with TS. Good pregnancy rates and promising pregnancy outcomes have been reported following egg donation in this specific population. However, in addition to a slightly increased risk of pregnancy-specific complications, a relevant risk of fatal aortic dissection in late pregnancy or postpartum has also been reported. Preconception counseling and aortic imaging have been recommended as useful tools to minimize this risk.

Art: Problems And Solutions

## **Gonadal failure: synthetic gametes future therapeutic modalities**

Schenker Joseph (IL)

The generation of human synthetic gametes and embryos from pluripotent stem cells is a challenge for the future human reproduction. Methods for in vitro gametogenesis would provide a powerful tool with which to explore the mechanism of germ-cell development and its anomalies. They could help individuals with infertility issues, especially when gametes production is impaired or absent/ In theory synthetic gametes could allow two individuals of the same sex to have a biological child and even there is potential to solo reproduction.

Human synthetic embryos, embryoids, are in vitro grown structures created from stem cells. Embryoids are developed without using oocyte or sperm. Instead, they are made by guiding pluripotent stem cells to self-organize into structures that resemble embryos at certain stages of development.

Scientist at the Weizmann Institute of Science, Israel has created complete models of human embryos from stem cells cultured in the lab – and managed to grow them outside the womb up to day 14. These synthetic embryo models had all the structures and compartments characteristic stage equivalent to day 14 in human embryonic development. That's the point at which natural embryos acquire the internal structures that enable them to proceed to the next stage: developing the progenitors of body organs.

Creation of SYNTHETIC HUMANAN MBRYOS raise an ethical concerns; issues whether these synthetic embryos should be treated like natural embryos. At present there is lack of global consensus on how to regulate synthetic embryo research.

Cronic Stress, Hypothalamic Function And Metabolic Risk

## Neurokinin B and Kisspeptin in gynecological endocrinology

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Neurokinin B (NKB) Neurokinin B (NKB) belongs to the tachykinin family of proteins whose regulation is essential for proper function of the reproductive system.

Kisspeptin is a neuropeptide encoded by kisspeptin gene (KISS1) and located in different brain regions mainly in hypothalamus (arcuate nucleus and preoptic area). Kisspeptin is regarded as the main positive regulator of GnRH pulsatile release. Kisspeptin acts through GPR54 receptor (Kisspeptin receptor). Scientific evidences suggest that hypothalamic kisspeptin neurons play a critical role in controlling of reproduction function.

It was discovered that kisspeptin neurons are co-expressed together with NKB and Dynorphin neurons at the hypothalamus level as KNDy neurons. These neurons can play important role in the regulation of GnRH secretion.

The role of kisspeptin and neurokinin B in gynaecological endocrinology is very broad. They can play a role in pathophysiology of such disorders as hypothalamic amenorrhea, PCOS, endometriosis, menopausal symptoms. Additionally kisspeptin was studied as a therapeutic tool in functional hypothalamic amenorrhea.

On the other hand NKB antagonist are used to treat menopausal vasomotor symptoms. There are also consideration about therapeutic use of NKB antagonists in endometriosis, fibroids and PCOS in the future.

Cronic Stress, Hypotalamic Function And Metabolic Risk

## **The influence of prolonged stress on the clinical course metabolic risks of PCOS**

Tatarchuk Tetiana (UA)

Institute of Pediatrics, Obstetrics and Gynecology NAMS of Ukraine

It is proved that women with PCOS have an increased risk of metabolic syndrome which is modulated by many external factors including lifestyle and the different stressors. In this presentation we overview the role of psychological stress as a strong modulator of human behavior and metabolism.

One of the explanations of increased levels of depression and anxiety (A) in PCOS is that they are caused by frustrating effect of hirsutism and obesity. Indeed, obese PCOS women with severe hyperandrogenism (HA) symptoms demonstrate the highest risk of psychoemotional disorders. But the problem is more complex. PCOS women have higher levels of perceived stress (PS) and a higher risk of emotional distress as shown in experimental studies.

HPA hyperactivity is involved in insulin resistance, dysfunctional adiposity, low grade inflammation, mood, and eating disorders (ED) via multiple complex interactions. At the same time metabolic disorders can exacerbate HPA axis dysfunction and cortisol effects.

Primary results of our online survey arranged in 2 years after the start of Russia's invasion in Ukraine included sociodemographic and anthropometric data collection, self-reported questions for PCOS, perceived stress scale (PSS-10), General Anxiety Disorder (GAD-7), SCOFF, and Questionnaire for Binge Eating Screening (QBES). We observed higher levels of PS, A and incidence of ED in PCOS women and the association of A and HA with the presence of ED.

Thus, neuroendocrine disorders of PCOS contribute to nonadaptive reactions and behaviors in conditions of prolonged stress, which in turn promote metabolic risks. Altered stress response, hormonal and metabolic disfunctions in PCOS are bidirectionally interrelated. This has to be addressed in management approaches.



Cronic Stress, Hypotalamic Function And Metabolic Risk

## **Novel approach to early detection and treatment of metabolic disturbances in polycystic ovary syndrome**

Paczkowska Katarzyna (PL)

Polycystic ovary syndrome (PCOS) is one of the most common endocrinological disorders affecting women worldwide; it has various clinical manifestations, including menstrual irregularity, infertility and cutaneous, psychological and metabolic issues.

Although it is conventionally linked to the reproductive age, it influences patients' health throughout their lifespan.

Evaluation of metabolic parameters is crucial for further treatment and reduction of cardiovascular risk; currently, in clinical practice, it includes assessment of glucose metabolism, often with widely discussed insulin resistancy, lipid profile and liver measurements.

Recent research shows the important role of proteins in metabolic health and amino acids profile as a marker of early metabolic disturbances in PCOS .

Lifestyle modifications are recommended as the primary approach for managing PCOS; however, there is a growing number of research related to improvement of metabolic parameters with probiotics, inositol and other supplementation. Moreover, individualized therapy, including metformin and recently introduced GLP-1 analogues have also a beneficial role in PCOS treatment.

## Women Aging Risks

## **An overview of 40 years of progress in the management of osteoporosis: where do we come from, where are we and where are we going to?**

Reginster Jean Yves (SA)

In 1948, Fuller Albright published that gonadal hormones, particularly estrogens and testosterone, play a significant role in the maintenance of bone health. However, significant progresses in the diagnosis, prevention and treatment of osteoporosis were only observed, since around 50 years. In the eighties, osteoporosis was diagnosed on the basis of a prevalent fracture. Bone biopsies were also used to quantitatively and qualitatively assess trabecular and cortical bone volume, bone formation and bone resorption. The validation of Dual Photon Absorptiometry (DPA) later complemented by Dual X-Ray Energy Absorptiometry (DEXA) paved the way to the publication, by the World Health Organization (WHO), of the definition of osteoporosis, based on the presence of a low T-score for bone mineral density at the spine or at the hip. More recently, new non-invasive technologies have been made available including but not exhaustively ultrasound-based devices (REMS) or technologies assessing bone structure and subsequent bone fragility (finite element analysis, trabecular bone score...). Whereas anti-resorptive agents (Bisphosphonates, SERMs) were developed since the early nineties, the turn of the century has shown the appearance of monoclonal anti-bodies (Denosumab and Romosozumab) which brought the treatment of osteoporosis to a new dimension. Parathyroid hormone receptor agonists (Teriparatide and Abaloparatide) are safe and potent stimulators of bone formation, alongside Romosozumab. There is today a unique opportunity to offer a specific treatment to osteoporotic patients, based on their fracture risk, which replaces the classical “one size fits all” approach, which prevailed until a decade from now. Sequential treatments, associating a bone forming agent followed by an anti-resorptive entity offer fast and potent beneficial effects on fracture, at all skeletal sites. Patients with a lower fracture risk may still benefit from the administration of menopausal hormone therapy, Calcium and Vitamin D, whereas intermediate fracture risk is an appropriate case for the prescription of oral Bisphosphonates or Denosumab. Health Economics studies have definitely confirmed the value of this “tailor-made” approach to handle patients with increased risk for fractures.

Women Aging Risks

## The national guidelines on MHT for prevention of dementia stroke

Hogervorst Eef (GB)

### Context

Menopausal hormone therapy (MHT) or Hormone Replacement Therapy (HRT) and its potential to prevent dementia or stroke has been investigated for many decades. While its biological plausibility suggests estrogens should be able to protect the aging brain, data are disputed.

**Objective** To discuss and analyse several forms of bias in observational and treatment studies

**Methods** Meta-analyses used Cochrane Revman 5.4.1. software analysing data from large nationwide studies of registered medically diagnosed Alzheimer's disease (AD, as the most common type of dementia) and prescribed MHT. Analyses were stratified for duration (in years), type of treatment (estrogens with or without progestogens), and age at start of prescriptions ( $\leq$  60 years of age). The NICE 2024 report provided data on MHT and stroke risk.

**Result(s)** Five national registries included 912,157 women of whom 278,495 had developed AD during follow-up. Meta-analyses suggested a small increased AD risk after 5–10 years prescription of combination MHT regardless of age. No association was seen for estrogen alone prescribed for women younger than 60 years of age, but AD risk did increase for women over 60 years of age

**Conclusions.** After 5-10 years of combined MHT a small increased risk of AD was seen. This could be related to unhealthy user prescription bias in observational data. For stroke, NICE analyses suggested no increased risk of stroke after combination or estrogen alone MHT

## Women Aging Risks

## New strategies for oncological prophylaxis in women: the microbiota

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The human microbiota is the set of symbiotic microorganisms that coexist with the human organism, while the term “microbiome” refers to the genetic heritage of the microbiota. The so-called “intestinal flora” is part of the complex human microbiota. An important function of the human microbiota is the breakdown of substances that our system is unable to dismantle. Another important function is the synthesis of indispensable substances. The human microbiota competes with non-symbiotic bacteria that could replicate in various areas of the body. By “vaginal flora” or “vaginal bacterial flora” we mean the set of microorganisms, mostly of bacterial origin, which colonize the vaginal cavity and constitute a form of defense against pathogenic attackers. The quantity and type of bacteria present in the flora has a direct influence on the state of a woman’s health. A healthy vaginal flora helps prevent fungal infections and other possible pathologies, occupying the necessary resources for their development and metabolism. Flora imbalances can also be caused by hormonal disorders, by physical or psychological stress, but also by excessive intimate hygiene with unsuitable or too aggressive products. The presence of a specific bacterial population prevents the colonization of other bacterial forms through a multiple operating mechanism. Pathologies connected to the microbiota are still the subject of study today, but numerous publications show that an altered composition of the microbiota is implicated in psychiatric pathologies, in chronic inflammatory diseases, and also in cancer, so that we can now prevent and treat it also by managing the microbiota.

Keywords: Microbiota; Gynecological cancer; Prevention; Treatment.

## Contraception

## An update on emergency contraception

Gemzell Danielsson Kristina (SE)

Karolinska Institutet

Today, many women prefer a method used on demand as and when needed. Emergency contraception (EC) is a contraceptive method that prevent pregnancy when regular contraception has failed, or no contraceptive method has been used but before pregnancy occurs. The hormonal per oral methods, the EC Pills (ECP) are usually considered as more convenient than the insertion of an IUD, which is otherwise the most effective method, and which also offers long-acting continuous prevention.

Studies on the effect of the currently available ECPs containing levonorgestrel (LNG) or Ulipristal acetate (UPA) in doses effective for EC including in vivo and in vitro data suggest that the mechanism of action involves delaying or inhibiting ovulation but does not directly prevent fertilization or implantation. Knowledge on the mechanisms of action of ECP could help to optimize their use and give realistic expectations on their effectiveness. We have utilized this knowledge in the development of new ECP or flexible on demand options with wider window of action resulting in increased efficacy.

Sexuality: When And How To Talk About

## The new generation Z gender identity and sexuality

Bastianelli Carlo (IT), Farris Manuela (IT)

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Adolescence is a period of significant physical, emotional, and social development, marked by exploration and identity formation. Central to this process is the development of one's sexual identity. While traditional models of sexual orientation have often portrayed it as fixed and binary, recent research highlights the concept of sexual fluidity, particularly among adolescents. This abstract explores the complexities of sexual fluidity during adolescence, examining the factors that contribute to this phenomenon and the unique challenges and opportunities it presents.

Sexual fluidity refers to the variability in an individual's sexual attraction over time. Adolescents may experience a range of attractions, including same-sex, opposite-sex, or a combination of both, and these attractions may change over time. This fluidity is influenced by a multitude of factors, such as biological, psychological, and sociocultural factors. Biological factors, including hormonal changes and brain development, may contribute to the emergence of sexual feelings. Psychological factors, such as self-concept and exploration of identity, also play a significant role. Additionally, societal attitudes and expectations can shape adolescents' understanding and expression of their sexuality.

The experience of sexual fluidity during adolescence can be both liberating and challenging. On the one hand, it allows for greater exploration and self-discovery. On the other hand, it can lead to feelings of confusion, uncertainty, and isolation. Adolescents who identify as sexually fluid may face unique challenges, such as stigma, discrimination, and a lack of support from their peers and families. Furthermore, the intersection of sexual fluidity with other aspects of identity, such as gender identity and race, can add layers of complexity to the adolescent experience.

It is mandatory emphasizes the importance of understanding sexual fluidity in adolescence. By recognizing the diversity of adolescent sexual experiences and providing supportive environments, we can promote the well-being of all young people. Future research should continue to explore the factors that contribute to sexual fluidity, the experiences of sexually fluid adolescents, and the implications for education, counseling, and policy.

**Keywords:** sexual fluidity, adolescence, sexual identity, LGBTQ+, identity development, social support

Sexuality: When And How To Talk About

## Tips & tricks for talking about sexuality

Castelo-Branco Camil (ES)

In most cases, sex life is not discussed at gynecological visits. This fact has its origin in a series of barriers, both institutional and personal, that affect the structure of the health system, the health professional and patients.

The main barriers for patients are:

1. Fear that the doctor will think it is a trivial matter.
2. Thinking that there is no treatment available for your sexual problem.
3. Inability to consider during the medical visit the sexual impact that the disease will have.
4. Shame.
5. False beliefs or myths regarding sexuality.

However, despite these barriers, most patients would like to be able to discuss sexual problems that arise in their lives in the gynecological consultation. It also highlights the preference of women to receive behavioral treatments in addition to pharmacological treatments to obtain a more comprehensive approach

On the other hand we need to highlight the lack of assessment of patients' sex life by gynecologists. In an American study, it is reported that 63% of gynecologists routinely evaluate the sexual activity of their patients; however, only 40% continue to evaluate sexuality and ask about the existence of sexual problem, and another Swiss study reports that only 7.9% of gynecologists routinely ask their patients about alterations in their sex life.

These data are probably due to barriers that affect both the professional and the health system, including:

1. Lack of training.
2. Poor confidence in assessment and prevention.
3. Fear of embarrassing the patient.
4. Professional's discomfort with respect to sexuality.
5. Characteristics of the patient: age, ethnicity, sexual orientation, having a partner or not, health prognosis.
6. Pathology-based healthcare model.
7. Reluctance to address sexual health.
8. Lack of time.
9. Lack of resources in the Public Health system.
10. Offices designed without patients' privacy in mind

However, patients who are seen in gynaecology consultations have a higher risk of having their sex life affected compared to women in the general population, both because of the gynaecological/obstetric pathology itself and because of some treatments that are indicated to treat these diseases (surgery, pharmacological treatments, chemotherapy, radiotherapy, etc.).

For this reason, it is especially important to break down all the barriers mentioned by assessing sexual health in routine gynecological practice.

Sexuality: When And How To Talk About

## Asking your patients about sex: opening Pandora's box

Abel Marie (NO)

Stavanger University Hospital

It is hard to imagine talking to a patient about their gynecological issue without addressing the topic of sexuality. And somehow I had managed to avoid this topic for most of my career. Not because I was not interested. But because I was worried about the Pandora's box I would be opening by asking a simple open question about sex. What if I do not have the answer? Who would I even refer them to? Who has the time?

The patients dare not ask and we as physicians feel relieved every time we have managed to “dodge the bullet” yet again. The silence around sexuality in OB&GYN offices is telling. And after a while the silence became uncomfortable enough that I decided to venture into the field of psychosexual therapy and clinical sexology. What has learning about sexual medicine and sex therapy taught me about our patients' hopes, expectations and concerns? How do I bring my therapy brain into my medical consultations? Do I finally have all the answers?

This is a presentation on my clinical and therapeutic experience and how marrying those fields together has changed how I think about sexuality, my patients and my work as a gynecologist.



Sexuality: When And How To Talk About

## Successful sexuality in premature ovarian insufficiency: new approach

Vujovic Svetlana (RS)

Human sexuality is complex phenomenon. It includes all internal body mechanisms of hormone regulations and external influences. Premature ovarian insufficiency (POI) represents hypogonadotropic hypogonadism, oligo/amenorrhoea, low estradiol levels in women younger than 40 years of age. AIM of this study was to compare changes of sexuality depending of hormone replacement therapy duration in POI. SUBJECTS AND METHODS:

I group: 93 POI patients,  $39.6 \pm 3.2$  years of age, 1-5 years receiving therapy, BMI  $21.7 \pm 2.9$  kg/m<sup>2</sup>. II group: 72 POI patients,  $44.5 \pm 3.1$  years old, BMI  $22.46 \pm 1.9$  kg/m<sup>2</sup>, 10-20 years receiving therapy. CONTROLS: 32 healthy women with regular menstrual cycles,  $34.8 \pm 4.1$  years old, BMI  $24.2 \pm 2.6$  kg/m<sup>2</sup>. Questionnaire: Mc Coy Sexual Rating scale (10 questions, grading 1-7, during last four weeks). Hormone analysis: follicle stimulating hormone, luteinizing hormone, estradiol, testosterone, dehydroepiandrosteron sulphate, androstendione, cortisol. Oral glucose tolerance test (OGTT) was performed with 75 gr of glucose and glycaemia and insulin were detected at 0.30.60.90.120. minute. Hormonal analysis RIA. STATISTICS: Wilcoxon Mann Whitney test, area under the curve. Subjects received individually tailored therapy: estradiol valerate, micronized progesterone, testosterone gel, DHEA, metformin, inositol, vitamin D, melatonin, anxiolytic. RESULTS: Women from II group had significantly more children, compared to group I and controls (50% vs 9.6% vs. 6.6%,  $p < 0.01$ ). No significant differences between group were found for: intercourse frequency, sexual fantasies and thoughts, enjoyment in sex, arousal and orgasm. Significant differences were found for: vaginal dryness (2.1 vs. 3.7 vs. 5.7), painful intercourse (2.0: 3.4 : 5.3). Interestingly, all of subjects were similarly satisfied with partner (5.9 vs. 5.7 vs. 5.8). Number of sexual intercourse at the last 4 weeks was significantly lower in the II group (2.8), and I (3.2) vs. controls (5.2). CONCLUSION: Individual hormone replacement therapy in POI replace insufficient hormones to normal levels detected in control group. External influences, stressors, way of life, everyday occupation influenced sexuality significantly. Philosophy of modern times obliged us to find free time for personal enjoyment and improving quality of life.

## Updates In Gynecological Surgery

**Tubal surgery in the era of ART**

Daniilidis Angelos (GR)

Tubal factor infertility is defined as infertility due to blocked fallopian tubes or inability of the fallopian tubes to pick up the ovum due to adhesions, and accounts for 11% to 67% of all infertility cases. Methods to evaluate tubal disease include hysterosalpingography (HSG), sonohysterography (SHG) and laparoscopy with chromopertubation. Realistic management options of tubal factor infertility include in vitro fertilisation (IVF) or reconstructive surgery. For proximal tubal occlusion, unless true anatomic obstruction is the cause, tubal cannulation can be attempted, as mean successful cannulation rates of 70% with a pregnancy rate of 33% may be anticipated. For mid-segment occlusion, tubal re-anastomosis may be considered over IVF in carefully-selected patients. Reconstructive distal tubal surgery options include salpingo-ovariolysis, fimbrioplasty and neosalpingotomy, with more favourable outcomes anticipated in milder tubal disease. Tubal flashing with oil-soluble contrast media (OSCM) may improve clinical pregnancy rates compared to water-soluble contrast media (WSCM), albeit no comparative data on livebirth rates exist and a higher risk of intravasation has been observed. For hydrosalpinges, tubal ligation or salpingectomy before IVF should be recommended, as it improves the clinical pregnancy rate. Unoperated hydrosalpinges appear linked to early pregnancy loss and ectopic pregnancy, while salpingectomy or proximal tubal occlusion in cases of unilateral hydrosalpinx with contralateral patent fallopian tube may enhance spontaneous conception rates in selected cases, without compromising the ovarian reserve. Whilst a comparison between IVF and surgery in tubal factor infertility is challenging, the final decision may, eventually, be based on a multitude of factors such as disease severity, woman's age, partner's semen analysis, co-existence of pelvic pain, local expertise and financial parameters. Surgery may be considered for young women with mild distal tubal disease, with IVF preferable in older women with bilateral hydrosalpinges and those with severe tubal disease.

## Updates In Gynecological Surgery

## Anticipation and management of surgical complications of endometriosis

Nisolle Michelle (BE)

Endometriosis surgery is complex specially in advanced stages and could be associated to high morbidity.

In order to avoid complications either per-operative or post-operative, it is recommended to identify pre-operatively the different lesions, the size, the degree of infiltration and the repercussion on the neighboring organs. By using transvaginal sonography or magnetic resonance imaging, a pre-operative mapping and a deep pelvic endometriosis index are easily obtained. It also permits to organize a multidisciplinary surgical procedure if needed and to predict the risk of postoperative complications and the hospital stay. Organization of the surgeon's collaboration will permit to optimize the surgical procedure and decrease the risk of complications. During the surgery itself, the detection of minor and major complications is crucial and possible by following the different rules described in the literature. For example, in case of complex rectal perforation, a general surgeon has to be called in order to repair the bowel. A similar collaboration is required in urological complications related to complex ureterolysis in cases of large deep endometriotic nodules. If not detected during the surgery, the complications have to be diagnosed as early as possible during the 48 post-operative hours.

In conclusion, to avoid complications a preoperative mapping and the knowledge of the surgical rules are needed. Care has to be taken to detect the complications as early as possible and a multidisciplinary team should be offered for the management.

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## Updates In Gynecological Surgery

**Tapes or bulking for stress urinary incontinence?**

Mikkola Tomi (FI)

Helsinki University Hospital

Stress urinary incontinence (SUI) is the most common urinary incontinence subtype, especially in younger women < 55 years of age. Pelvic floor muscle therapy is the first-line treatment, but surgical interventions are often needed to adequately treat SUI. Midurethral sling surgery, including tension-free vaginal tape (TVT) using polypropylene mesh, has been the gold standard treatment for the past decades. In recent years, however, concerns about long-term complications such as mesh erosion and pain have led to warnings and even in some countries to suspension of mesh use in vaginal surgery. Bulking agents are a minimally invasive alternative to treat SUI, but their efficacy is traditionally considered to decrease over time. Transurethral polyacrylamide hydrogel (PAHG, Bulkamid) bulking agent has shown high short-term subjective success rates and good safety profile, but long-term result of this treatment in primary SUI is undefined.

We randomized 223 women requiring operative treatment for primary SUI to receive TVT or PAHG and 212 women received treatment as randomized (TVT n=104 and PAHG n=108). The follow-up visits took place at 1 year, and 3 and 5 years after the primary treatment. TVT shows better subjective and objective cure rates at 1, 3, and 5 years. However, complications are more often associated with TVT. As the patient satisfaction remained high in both groups throughout the study and the majority of PAHG treated women considered themselves cured or improved, PAHG provides a safe and durable alternative for treating women with primary SUI. Patients choosing treatment for SUI often have different expectations and acceptability of possible complications. Therefore, appropriate counselling and shared decision-making between the patient and the clinician are essential for ensuring patient satisfaction after treatment.

Art: Individualization Of Treatments

## **The role of androgens as pre-treatment in IVF**

Drakopoulos Panagiotis (GR)

Animal studies consistently demonstrate that androgen exposure enhances follicular growth. However, clinical studies in humans have yielded conflicting results. While some small-scale trials report a potential benefit of androgen pretreatment (mainly testosterone) in terms of oocyte yield and embryo quality, larger well designed RCTs fail to show a significant improvement in live birth rates. Furthermore, variability in treatment protocols, androgen formulations, and patient selection criteria complicate the interpretation of findings.

Despite promising data from animal studies, the clinical evidence supporting the routine use of androgens as a pretreatment in IVF remains inconclusive. The discrepancy between animal and human studies highlights the complexity of androgen action in ovarian physiology. Future well-designed, large-scale RCTs are necessary to clarify the role of androgens in IVF. Until then, routine androgen supplementation in IVF should be approached with caution.

Art: Individualization Of Treatments

## **Triggering final follicular maturation- hCG, GnRH-agonist or both, when and to whom?**

Orvieto Raoul (IL)

As part of a standard/conventional controlled ovarian hyperstimulation (COH) regimen, final follicular maturation is usually triggered by one a single bolus dose of human chorionic gonadotropin. While COH which combines GnRH antagonist co-treatment with GnRH agonist(GnRHa) trigger, is often used in attempts to eliminate severe early ovarian hyperstimulation syndrome and to improve oocyte/embryo yield and quality, recently, GnRHa, combined with human chorionic gonadotropin trigger has been also implemented into clinical practice. Here, we present and discuss published studies relating to various ways of triggering final follicular maturation, seeking to elucidate the appropriateness of each approach for specific patient subgroups.

Art: Individualization Of Treatments

## Dual Stimulation, to whom and when

Ubaldi Filippo Maria (IT)

DuoStim represents an innovative strategy to personalize IVF protocols and fully exploit ovarian reserve. The rationale of this approach is to increase the number of oocytes and embryos available per menstrual cycle in all patients where obtaining competent oocytes is a urgent task for malignant diseases or other medical indications and in patients with advanced maternal age and/or reduced ovarian reserve. This includes the use of gonadotropins for both the first and second stimulations, along with hypothalamic-pituitary suppression achieved through either a GnRH antagonist or a progesterone-primed ovarian stimulation (PPOS) protocol. While the maturation trigger for the first stimulation must be administered using a GnRH agonist, the trigger for the second stimulation is optional and may involve a GnRH agonist,  $\beta$ -hCG, or a combination of both. Following the first oocyte retrieval (OPU), which is conventionally performed to collect all mature follicles, a 5–6 day interval is required before initiating the second stimulation, during which no medications are prescribed.

To effectively implement a DuoStim protocol, a proper learning curve of at least 50–100 cycles is necessary. This ensures optimal protocol adaptation, minimizes complications, and enhances clinical outcomes by allowing practitioners to refine stimulation strategies and patient selection criteria.

In comparison to a conventional approach, it has been even reported cost-effective at our institution. It is evident that the implementation of Double-Stimulation is ancillary to the establishment of an efficient high-quality lab practice mastering blastocyst culture and vitrification. This is due to the fact that cycle segmentation is mandatory with this unconventional stimulation protocol. In this regard, DuoStim represents an ideal approach for PGT-A, as it increases the probability of obtaining an euploid blastocyst within a single ovarian cycle, thereby reducing time, costs, and turnaround time for diagnosis. Indeed, although both ovulatory and anovulatory waves within the same ovarian cycle produce oocytes of comparable competence, the latter cohort tends to be larger. This means that women retrieving only a few oocytes in the first stimulation often double their yield through a second stimulation within the same cycle. Furthermore, this strategy is highly flexible and can be adapted in real time based on the embryological outcomes of the first cohort.

Polycystic Ovary Syndrome

## **Is PCOS still “a mystery syndrome”, what is the awareness of the condition?**

Piltonen Terhi (FI)

PCOS is the most common endocrinopathy in women affecting 5-15% of all women. Yet, the awareness of the syndrome is poor. With this presentation we will learn the recent updated diagnostic criteria of the syndrome and assess data regarding the awareness.



## Polycystic Ovary Syndrome

## Ongoing challenges in diagnostic criteria for PCOS, why is it relevant?

Fauser Bart (NL)

The Rotterdam consensus meeting, organized in 2003, widened the previous 1991 NIH definition for PCOS diagnosis. Recognizing the fact that PCOS represents a notoriously heterogeneous clinical condition – like many other syndromes in medicine – a consensus was reached that at least two out of the three following criteria would need to be fulfilled for diagnosis: (1) polycystic appearance of ovaries, (2) clinical or biochemical signs of hyperandrogenism, and (3) oligo/ or amenorrhea, with the exclusion of other etiologies. The consensus document was published simultaneously both in Human Reproduction and Fertility & Sterility (a novelty at the time), and both these publications became to most cited paper ever published in reproductive medicine, with around 5.000 citations each. There are distinct cultural and socio-economic differences how to balance the risks of overdiagnosis versus underdiagnosis (by being more restrictive, like NIH criteria).

Despite ongoing debate regarding the details and implications of PCOS diagnostic criteria, the Rotterdam criteria are still valid today and were embraced by subsequent meetings and guidelines, such as the 2012 NIH evidence based guideline on PCOS diagnosis, along with the global PCOS guidelines from 2018 and updated in 2023.

The most recent 2023 guideline proposed that the ultrasound diagnosis of polycystic ovaries could be replaced by assessing serum Anti-Müllerian Hormone (AMH) levels. However, due to assays problems and the absence of proper normative AMH data, absolute AMH cut-off concentrations cannot yet be provided.

Moreover, although Rotterdam diagnostic criteria are still valid for adult women, they need to be modified for adolescent women.

Finally, although signs of metabolic dysfunction (which may affect later life health risks such as diabetes and cardiovascular disease) is not considered part of diagnostic criteria per se, follow-up and secondary prevention may be advised.

## Polycystic Ovary Syndrome

## Adolescents with PCOS: important aspects of mental health

Lidaka Lasma (LV)

Polycystic ovarian syndrome (PCOS) is the most common endocrinopathy among women of reproductive age, often manifesting during adolescence. In addition to the physical symptoms of hyperandrogenism and impaired metabolic health, PCOS significantly impacts various aspects of mental health.

The aim of this presentation is to review the mental health challenges faced by adolescent PCOS patients, explore possible treatment modalities, and examine the interaction between these treatments and the symptoms of the syndrome.

PCOS patients experience a higher prevalence of anxiety, depression, low self-esteem, and body image concerns. They are also at an increased risk of developing eating disorders, particularly binge eating, which can undermine efforts to improve and maintain metabolic health. Adolescents with PCOS face an even greater risk of impaired mental health, as they are navigating an especially vulnerable stage of life.

Medications used to treat mental health issues can interact with those prescribed for managing PCOS symptoms, occasionally leading to indirect negative effects, such as changes in appetite and subsequent weight fluctuations. However, effective management of PCOS can significantly improve mental health outcomes, and improved mental health can, in turn, enhance the management of PCOS symptoms.

**Conclusions:** Mental health is a critical component of PCOS management and must be addressed appropriately. Given the multifaceted nature of PCOS, a multidisciplinary team approach is essential for effective management, particularly in addressing mental health concerns.

## Polycystic Ovary Syndrome

**Treatment of infertility in women with PCOS: an evidence-based approach**

Tarlatzis Basil (GR)

Life-style modifications should be advised in obese PCOS women before ovulation induction, although it is still unclear if this increases the cumulative pregnancy/live birth rate. Letrozole or clomiphene citrate (CC) are the treatment of first choice, although letrozole is more effective than CC in infertile anovulatory women with PCOS and especially in the obese subgroup.

Metformin alone is less effective than CC in inducing ovulation in women with PCOS.

The addition of metformin to CC may increase clinical pregnancy rate and decrease time to pregnancy, especially in specific PCOS subgroups (obese and CC resistant).

Gonadotropins, in low dose protocols aiming at mono-follicular development, represent an effective treatment option.

Laparoscopic ovarian drilling is as effective as CC and gonadotropins for ovulation induction and achievement of pregnancy but with significantly less multiples.

IVF is a reasonable option because the number of multiple pregnancies can be minimized by single embryo transfer. PCOS patients seem to have similar chances to achieve a pregnancy with IVF compared to non-PCOS.

The use of metformin significantly reduces the incidence of OHSS in the long GnRHa protocol.

The incidence of OHSS is significantly lower in the GnRH antagonist protocols.

GnRH agonist triggering, in a GnRH antagonist protocol, associated with freezing of all embryos and subsequent FET, maintains high pregnancy rates, almost eliminating the risk for OHSS.

## Adolescent Gynecology

## Treating dysmenorrhea in adolescents: when to think to endometriosis

Brichant G, Moise A, Closos F, Nisolle M, Chantraine F

Dysmenorrhea is defined as painful cramps in the pelvic area before or during menstruations and affects between 43 and 91% of adolescent girls(1). This high prevalence of teenagers experimenting menstrual discomfort is responsible for a normalization of the symptom and a delay before diagnosis and treatment (2). This delay can profoundly impact social and study life of those girls with severe dysmenorrhea. First professional point of contact for those young girls are usually their pediatrician and/or their general practitioner. It is of the utmost importance to carefully listen to those patients and investigate when first line of treatment does not alleviate symptoms. Primary dysmenorrhea is defined as painful cramps in the uterine area occurring just before or during menstruation. It lasts 1-3 days and physical examination remains unremarkable, excluding other conditions. Secondary dysmenorrhea on the other hand, is the consequence of an underlying pathology such as uterine malformation, endometriosis or uterine fibroids for example.

Endometriosis is a chronic disease usually diagnosed at adult age, even though the symptoms could begin at adolescence. Medical history helps for the diagnosis and in the selection of patients liable for medical or surgical treatment. The main criterion is the description of severe dysmenorrhea necessitating the prescription of oral contraceptive pill early after the menarche. Early diagnosis is a major issue in the evolution of the disease which is characterized by physical, psychosocial and sexual consequences.

When confronted to a young girl complaining of dysmenorrhea, diagnosis is mainly based on the interrogation and clinical examination. Abdominal or transvaginal ultrasound in non-virgin adolescent is useful. Pelvic examination, pregnancy test, sexual transmitted diseases screening and Magnetic Resonance Imaging may help exclude other causes of pain. As a last resort, when medical treatment is insufficient and additional examinations negative, an exploratory laparoscopy could be proposed. More recently, a new non-invasive diagnostic tool based on miRNA assessment in the saliva is being evaluated to avoid surgery in such young patients.

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## Adolescent Gynecology

**Abnormal uterine bleeding in adolescents**

Bumbuliene Žana (LT)

Abnormal uterine bleeding (AUB) refers to bleeding that is either excessive (heavy) or occurs outside the normal menstrual cycle, occurring in the absence of hormonal therapy. During adolescence, AUB is typically painless and is often not linked to any underlying structural or systemic diseases. The prevalence of menstrual bleeding issues can be as high as 30% among adolescent girls who visit a gynecologist.

The most common cause of AUB in adolescents is dysfunctional uterine bleeding resulting from ovulatory dysfunction, as classified by the PALM-COEIN FIGO classification, which is related to the immaturity of the hypothalamic-pituitary-gonadal axis. Dysfunctional uterine bleeding is considered a diagnosis of exclusion. The second most common cause of heavy menstrual bleeding in this age group is coagulation disorders. Additionally, potential causes such as pregnancy, injuries related to sexual assault, or sexually transmitted infections should be ruled out. Structural causes of AUB are infrequent in adolescents.

Management of AUB depends on the severity of the bleeding (which includes the degree of anemia and hemodynamic stability), the underlying cause, the presence of any systemic disease, the availability and cost of treatment options, and the preferences of the patient and her family, which cultural or religious factors may influence.

Assessment of AUB severity is as follows:

Mild AUB: Menstrual periods longer than normal (greater than 7 days) or shorter cycles (less than 21 days) for two or more months, with slightly or moderately increased menstrual flow and hemoglobin levels greater than 120 g/L.

Moderate AUB: Prolonged or frequent menses (occurring every 1–3 weeks) with moderate to heavy flow and hemoglobin levels of 100 g/L or greater.

Severe AUB: Disruptive menstrual cycles with heavy bleeding resulting in hemoglobin levels lower than 100 g/L, potentially accompanied by hemodynamic instability.

Life-threatening AUB: Hemoglobin levels lower than 70 g/L with associated hemodynamic instability.

Treatment options for these conditions will be discussed through case analyses.

## Adolescent Gynecology

## Bridging the knowledge gap: hyperprolactinemia in adolescent girls

Pkhaldze Lali (GE)

Prof. Zhordania and Prof. Khomasuridze Institute of Reproductology

Hyperprolactinemia (HPrl), with a prevalence of 0.4–5% in adult women, is commonly linked to menstrual irregularities, infertility, and galactorrhea. In adolescence, its occurrence is less frequent. However, it can significantly impact growth, sexual development, and overall health. Elevated prolactin (PRL) disrupts the hypothalamus-pituitary-ovarian axis, leading to delayed puberty, amenorrhea, and ovulatory dysfunction.

In adolescent girls, pathological HPrl originates from functional, tumor-related, and iatrogenic causes. Iatrogenic causes are often associated with antipsychotics and selective serotonin reuptake inhibitors (SSRIs) prescribed for behavioral disorders in this age group. Prolactinomas are common benign pituitary adenomas in adolescent girls, though they are less frequent than in adults. Tumor-associated HPrl presents with PRL levels ranging from minimal elevations to as high as 50,000 ng/ml and may cause headaches or vision impairments due to tumor mass effects. The hypogonadotropic state induced by hyperprolactinemia poses risks to peak bone mass formation during adolescence, with long-term implications for skeletal health. Functional HPrl is characterized by mild to moderate PRL elevation and often lacks overt symptoms, including galactorrhea. Adolescents may show distinct features, such as polycystic ovarian changes and hirsutism, which are rarely seen in adults. HPrl often coexists with hypothalamic dysfunction and sub-clinical and overt hypothyroidism.

Due to prolactin's pulsatile secretion, at least two elevated prolactin levels on different days confirm hyperprolactinemia (HPrl). Key diagnostic pitfalls include "macroprolactinemia" and the "hook effect". MRI with gadolinium is the preferred imaging for sellar masses. For most patients, including those with prolactinomas, dopamine agonists are the treatment of choice, with cabergoline favored for its higher efficacy and fewer side effects.

The distinct endocrinological and clinical profile of HPrl in adolescent girls suggests a progressive nature of the disorder and underscores the importance of bridging the knowledge gap in its diagnosis and management. Early and precise evaluation is critical to identifying this often-overlooked condition. By prioritizing regular follow-up and targeted treatment, clinicians can mitigate the reproductive, skeletal, and metabolic health risks associated with this disorder, ultimately improving long-term health outcomes for patients.

## Pre-Term Birth

## Amniotic fluid biomarkers: do they better predict maternal or neonatal outcomes?

Ramašauskaite Diana (LT)

**Background.** Intraamniotic inflammation and/or infection is a well-known cause of preterm premature rupture of membranes (PPROM) and is associated with adverse maternal and neonatal outcomes. The amniotic fluid analysis of the inflammatory biomarkers diagnosing histological chorioamnionitis and fetal inflammatory response syndrome (FIRS), the hallmarks of intraamniotic inflammation, has received much attention.

**Objective:** To determine the significance of biomarkers in vaginally obtained amniotic fluid predicting intraamniotic inflammation after PPRM before 34 weeks of gestation.

**Results.** We chose to assess cytokines of a high diagnostic value in non-invasively collected amniotic fluid, the high diagnostic value of which was proved in the amniotic fluid collected by amniocentesis (IL-6, TNF- $\alpha$ , MMP-8, sTLR-2, sTLR-4,  $\alpha$ -defensins) and the suPAR marker with a high diagnostic value determined in various infections. The statistically significant markers observed in our study were IL-6, TNF- $\alpha$ , MMP-8, and suPAR. At the same time, the sTLR-2, sTLR4, and  $\alpha$ -defensins were not statistically significantly different between the women with histological chorioamnionitis and the control group. TNF- $\alpha$  had the highest diagnostic values for the amniotic fluid markers alone, but MMP-8 had higher diagnostic values in the model combined with maternal blood inflammatory markers.

For the analysis of FIRS with major outcomes, each group was further assessed based on the presence or absence of major neonatal outcomes, a composite variable that included neonatal mortality and severe morbidity. Major neonatal outcomes were diagnosed if one or more of the following were present: severe respiratory distress syndrome (RDS), requirement for mechanical ventilation, death, early-onset sepsis (EOS), early hypotension, severe intraventricular hemorrhage (IVH), bronchopulmonary dysplasia (BPD), and severe retinopathy of prematurity (ROP). The concentrations of inflammatory biomarkers (TNF- $\alpha$ , MMP-8, IL-6, IL-10, IL-17, DEFA3, and suPAR) in non-invasively collected amniotic fluid are robust predictors of FIRS. TNF- $\alpha$  demonstrates superior diagnostic and prognostic value for FIRS. Elevated levels of TNF- $\alpha$ , MMP-8, IL-6, IL-10, IL-17, and DEFA3 in non-invasively collected amniotic fluid are associated with major neonatal outcomes in FIRS-affected neonates. Elevated TNF- $\alpha$  levels and decreased EGF levels, when combined with gestational age and FIRS diagnosis, enable the identification of neonates at high risk for adverse neonatal outcomes.

**Conclusions.** The use of inflammatory biomarkers, specifically TNF- $\alpha$ , in non-invasively obtained amniotic fluid could be helpful to predict not only chorionamnionitis but also to identify FIRS after PPRM. Considering gestational age and specific biomarkers, like TNF- $\alpha$  and EGF, together may improve the prediction of FIRS and major neonatal outcomes, aiding in the early stratification of fetal and neonatal risk. The analysis of biomarkers before birth could significantly impact the management strategies for women with PPRM and their neonates, potentially improving outcomes through early intervention and individualized care plans.

## Pre-Term Birth

## Navigating pre-term birth: a modern approach to enhancing neonatal outcomes

Miskova Anna (LV)

**Background:** Preterm birth (PTB), defined as delivery before 37 weeks of gestation, remains a leading cause of neonatal mortality and long-term health complications. Advances in perinatal care have improved survival rates, but challenges persist in optimizing outcomes for preterm infants. This talk explores modern approaches to managing PTB, focusing on prevention, evidence-based interventions, and strategies to enhance neonatal outcomes.

**Methods:** A comprehensive review of current trends in PTB incidence, risk factors, and neonatal care advancements was conducted. Key focus areas included maternal risk assessment, innovations in antenatal interventions, neonatal intensive care strategies, and long-term follow-up programs for preterm infants.

**Results:** Preventative strategies such as cervical length screening, progesterone supplementation, and personalized antenatal care have effectively reduced spontaneous PTB rates. Advances in neonatal care—including improved respiratory support, targeted nutrition, and neuroprotective interventions—have significantly enhanced survival and long-term developmental outcomes. Additionally, integrating standardized protocols for early diagnosis and intervention in high-risk pregnancies has improved neonatal prognosis.

**Conclusions:** A multidisciplinary approach combining early risk identification, individualised perinatal management, and state-of-the-art neonatal care is key to improving outcomes for preterm infants. Future efforts should focus on refining predictive models, expanding access to advanced neonatal therapies, and strengthening post-discharge follow-up programs to optimize long-term health and developmental trajectories. These strategies offer a framework for reducing the burden of PTB and improving neonatal survival worldwide.



Pre-Term Birth

## Pre-term premature rupture of membranes and chorioamnionitis

Minkauskiene Meile (LT)

Preterm premature rupture of fetal membranes (PPROM) complicates up to 1–3% of pregnancies, with the most challenging cases occurring near the limit of viability. Early PPRM presents a unique management and counseling dilemma, as recommendations regarding pregnancy prolongation, diagnosis of intrauterine infection, monitoring for complications, and the optimal timing of delivery remain largely based on professional consensus due to a lack of robust evidence. Our retrospective data on PPRM at a tertiary care center (The Hospital of the Lithuanian University of Health Sciences Kauno Klinikos) from 2021 to 2023 show that the latency period following PPRM before 30 weeks significantly impacted infection rates, with clinical chorioamnionitis being more common in the shorter latency group. However, longer latency did not significantly affect neonatal outcomes such as sepsis and necrotizing enterocolitis. Gestational age was a critical factor, with earlier PPRM being associated with higher rates of neonatal sepsis and clinical infection. We provide an overview of current knowledge on PPRM and associated chorioamnionitis, focusing primarily on its evaluation and management.

## Infections In Obstetrical And Gynecological Settings

## Parvovirus infection during pregnancy

Kielaitė Dovile (LT), Paliulytė Virginija (LT)

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**Context:** Infection caused by human parvovirus B19 (B19) often has mild yet wide-ranging clinical signs, with the course of disease usually defined as benign. Particularly prevalent in the population of young children, the virus is commonly transmitted to the parents, especially to pregnant mothers. During pregnancy, particularly the first and second trimesters, the parvovirus infection can lead to pathology of the fetus: anaemia, heart failure, hydrops, and disorders of physical and neurological development. In severe cases, the disease can result in fetal demise.

**Objective:** A rare case of manifestation of the B19 infection during pregnancy and discussion will be presented.

**Patient:** At the 27th week of gestation, a sudden change in fetal movement occurred in a previously healthy pregnancy. Examination of both fetus and the mother revealed newly formed fetal subdural haematoma of unknown aetiology and ventriculomegaly. Following extensive examination to ascertain the origin of fetal pathology, a maternal B19 infection was detected. Due to worsening fetal condition, a planned caesarean section was performed to terminate the pregnancy at 31 weeks of gestation. A preterm male newborn was delivered in a critical condition with congenital B19 infection, hydrocephalus, and severe progressive encephalopathy.

**Discussion:** The manifestation and the origin of the fetal condition remain partially unclear. Transplacental transmission of maternal B19 infection to the fetus occurs in approximately 30% of cases. The main method for diagnosing B19 infection is Polymerase Chain Reaction (PCR) performed on a blood serum. In the absence of clinical manifestations, early diagnosis of B19 infection is rarely reached. As a result, the disease left untreated can progress inconspicuously and cause serious complications. Treatment strategies are limited and depend on the condition of the pregnant woman and the fetus. When applicable, intrauterine blood transfusion reduces the risk of fetal mortality.

**Conclusions:** It is crucial to assess the predisposing factors of the infection and evaluate signs of early manifestation as it may help prevent the progression and poor outcomes of the disease.

## Infections In Obstetrical And Gynecological Settings

## From resistance to resilience: rational antibiotic practices in gynecological settings

Rezeberga Dace (LV)

Antibiotic resistance is a growing concern in gynecology, where infections such as urinary tract infections (UTIs), pelvic inflammatory disease (PID), and sexually transmitted infections (STIs) are common. Responsible antibiotic use is essential to combat this issue and ensure effective treatment for patients.

1. **Adherence to Guidelines:** Healthcare providers should follow established clinical guidelines for the diagnosis and treatment of gynecological infections. These guidelines are based on the latest evidence and help ensure that antibiotics are prescribed appropriately.
  2. **Accurate Diagnosis:** Proper diagnostic testing, including cultures and sensitivity tests, should be conducted to identify the specific pathogens causing infections. This allows for targeted antibiotic therapy, reducing the likelihood of broad-spectrum antibiotic use that can contribute to resistance.
  3. **Education and Training:** Continuous education for healthcare providers on the principles of antibiotic stewardship is crucial. This includes understanding the implications of antibiotic resistance, recognizing when antibiotics are necessary, and knowing the appropriate choices for treatment.
  4. **Patient Education:** Patients should be informed about the risks of antibiotic misuse, the importance of completing prescribed courses, and the potential consequences of self-medication or demanding antibiotics for viral infections.
  5. **Monitoring and Surveillance:** Implementing systems for monitoring antibiotic prescribing patterns and resistance trends within healthcare settings can help identify areas for improvement.
  6. **Multidisciplinary Approach:** A multidisciplinary team can develop protocols, share knowledge, and support each other in making informed prescribing decisions.
  7. **Alternative Therapies:** Exploring non-antibiotic treatment options, such as probiotics, vaccines, and other preventive measures, can reduce the reliance on antibiotics and help maintain their effectiveness.
  8. **Infection Prevention:** Emphasizing infection prevention strategies, such as proper hygiene, safe sexual practices, and vaccination, can reduce the incidence of infections that require antibiotic treatment.
- By implementing these strategies, gynecological practices can contribute to the fight against antibiotic resistance, ensuring that antibiotics remain effective for future generations while providing optimal care for patients.

## Infections In Obstetrical And Gynecological Settings

**Maternal papillomavirus infections and the placenta**

Jonassen Christine M. (NO)

Norwegian Institute of Public health

About 40 different human papillomaviruses (HPV) infect the epithelium of the genital tract of humans. These are classified as high-risk, probably/possibly high-risk or low-risk types, according to their carcinogenic potential in the cervix. Most HPV infections regress within two years, through cell-mediated immunological control, but some may progress and lead to precancerous and cancerous lesions or may remain latent in basal epithelial cells and occasionally get reactivated depending on the host's immune status, hormonal changes or mechanical stress to the cervix. HPV 16 is the HPV type most often associated with cancerous cervical lesions. Genital HPV infections are the most common infections of women in reproductive age, with a prevalence of 20-40% at age of 20-25. Women are generally more prone to viral infections during pregnancy, potentially due to the proposed temporary shift from a Th1-mediated immune response (cellular immunity) to a Th2 response (humoral immunity). The immunological alteration, as well as hormonal changes in pregnancy, may therefore lead to reactivation of latent HPV infections, or delayed clearance/immunological control of newly acquired or persisting infections.

HPVs have been shown to be able to replicate in trophoblasts and Hofbauer cells, but the association between placental HPV infections and adverse outcomes associated with placental dysfunction, is not well established. HPV has been detected in third trimester placenta, with prevalences ranging from 0 to 75%, depending among other factors on sample type investigated, swabs or biopsy sampling and population sizes. In a recent study on placental punch biopsies, we found an overall HPV positivity of 3% in a non-selected population of pregnant Scandinavian women, ranging from 1% in women in long relationship to the child's father (> 5 years) to 10% in women in a shorter relationship to the child's father (< 3 years). HPV prevalence in placenta was associated with high genital viral loads at mid-pregnancy, with nearly 90% HPV type concordance between genital mid-pregnancy and placental infection, and low-risk HPV 42 being the most common single genotype detected in placenta. Transmission of genital HPV infections to the placenta could be facilitated in newly acquired and/or highly productive infections. There was no association between genital HPV infection at mid-pregnancy nor between HPV placental infections at delivery, and placental dysfunction syndromes in our study.

Sexuality: To Better Understand How To Communicate

## **Sexuality between science and culture**

Bitzer Johannes (CH)

Sexuality is part of human life involving the body, the mind and the sociocultural environment of a person. (Biopsychosocial understanding of medicine). The sexual body has been studied based on the principles and practice of natural sciences. We have learned about the physiology of the human sexual response, about the hierarchical organization of this response (from the brain to the genital organs) and about the dynamics between excitation and inhibition (dual control model). Beside this objective perspective (third person perspective) sexuality has the dimension of the subjective experience which cannot be measured from outside (first person perspective). The subjective experience is influenced by many psychosocial factors including not only laws and political regulations but also traditions, beliefs, values and last but not least one's own biography. These factors contribute to the individual meaning of sexuality and the relationship with love, the learned practices, the roles in the dyadic sexual relationship and these factors define what is prohibited and what is allowed. Caring for the sexual health of our patients in all clinical settings needs therefore this comprehensive approach including science and the understanding of the culture our patients live in.

Sexuality: To Better Understand How To Communicate

## **Sexuality in the digital age**

Below Jaana (EE)

Estonian Sexual Health Association

In this presentation we will see how digital solutions and the spread of social media and “being online” has changed the sexualities of people, the way they express themselves sexually.

How social media shapes sex and sexuality, what is social media sex and how and when it happens. Who controls the rules and regulations of which kind of sex is allowed on different platforms.

Is any of it beneficial for relationships? Finding communities of people with like-minded interests and identities.

What is the future like with AI and deepfakes.

How do we teach children and young people how to navigate sex in social media and chat-platforms.

Sexuality: To Better Understand How To Communicate

## Transgender healthcare

Haldre Kai (EE)

East Tallinna Central Hospital Women's Clinic

Estonia has a population of 1.3 million. After regaining independence in 1991, from almost 50 years of Soviet occupation, Estonia has undergone major socio-economic changes, including profound educational and healthcare reforms. Legislation changes have taken place to further sexual and reproductive health and rights of minority groups.

Gender-affirming care, as defined by the World Health Organization, includes a range of social, psychological, behavioural, and medical interventions to support and affirm an individual's gender identity when it conflicts with the gender they were assigned at birth. Gender transition is undertaken to improve the well-being of people suffering from gender dysphoria.

In Estonia care for gender incongruent people has been regulated since 1999 according to a decree by the Ministry of Social Affairs and access to gender-affirming health care was established accordingly. Care is based on the binary criteria of WHO ICD-10 (F64.0 Transsexualism). Minors can apply only when their parents/legal guardians present the application for gender transition. Medical care or sterilisation has never been mandatory before legal transition in Estonia.

The exact number of persons who had applied since 1999 in Estonia for gender affirming care/legal transition, who started transition, number persons with transition regret and detransition is not known.

It has been estimated that up to 10 persons per year applied in 1999-2017 with the request to start gender transition. As part of the recent trend in Western world, Estonia is witnessing a trend of sudden rise of the applicants. This started around 2018. From May 2021 until the end of 2024 there were 389 persons who had applied to the Ministry of Social Affairs to start gender transition. Two thirds of the applicants are females assigned at birth, majority young adults under 25 years of age. Significant mental health and neurodevelopmental comorbidities, such as autism, attention deficit disorder, depression, anxiety disorders, eating disorders were noticed. Transgender healthcare in Estonia is based on respecting human rights, all gender incongruent people deserve evidence-based approaches in their care. However, complex clinical cases are often filled with diagnostic uncertainty and many treatments are not backed by convincing scientific evidence. The field of gender medicine needs to commit to conducting research, healthcare in Estonia should be based on the results of the research done locally.

# Symposia by Scientific Societies





Paediatric and adolescent gynaecology: case studies and literature review

## Sertoli-Leydig cell tumor in adolescent girl

Bumbulienė Žana (LT)

Symptoms of androgen excess are relatively common among adolescents and should be thoroughly investigated with attention to differential diagnoses. Approximately 1% of ovarian tumors can lead to hyperandrogenism with virilization, and these tumors may be associated with mutations in specific genes.

We present the case of a 16-year-old girl who presented with amenorrhea for seven months, a weight loss of 6 kg, hirsutism, and a deepening of her voice. Clinical examination revealed significant voice changes, a hirsutism score (mFG) of 10, an increased sex drive, and a reduction in breast size. An ultrasound examination indicated a solid mass on the left ovary. Hormonal profiling showed elevated testosterone levels (33.05 nmol/L) and a free androgen index of 90.80%. MRI confirmed a well-defined 36 mm solid tumor of the left ovary (FIGO I), with no changes noted in the adrenal glands. Based on these radiological findings, a Sertoli-Leydig cell tumor was suspected.

A laparoscopic left adnexectomy was performed, and the final pathology diagnosis revealed a moderately (G2) differentiated Sertoli-Leydig cell tumor (SLCT) in the left ovary, staged as pT1a (tumor confined to the ovary) with no evidence of lymphovascular invasion (LVI-0). The tumor was radically removed, and further treatment was not indicated.

After surgery, the patient experienced a decrease in hirsutism, and her menstrual cycle normalized; however, her voice remained deep. Due to the clinical suspicion of a potential hereditary cancer syndrome, a next-generation sequencing study was conducted targeting genes associated with solid tumors, including DICER1. A germline mutation in the DICER1 gene was identified.

**Conclusions:** Patients with Sertoli-Leydig cell tumors should be screened for DICER1 syndrome. We propose conducting a review of DICER1 mutations in girls, particularly those with DICER1-associated gynecological malignancies, as well as in healthy individuals with confirmed mutations. Please contact us if you have similar cases.

Paediatric and adolescent gynaecology: case studies and literature review

## Large uterine leiomyoma in a 15-year-old girl

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Uterine leiomyomas are very common benign gynecological tumors among women of reproductive age, but extremely rare in adolescents. We herein report the case report of large uterine leiomyoma in a 15-year-old girl.

A previously healthy 15-year-old Caucasian patient gravida 0 was admitted to the Pediatric Emergency Department of Hospital of Lithuanian University of Health Sciences Kaunas Klinikos due to acute abdominal pain. Her menarche at 12 years of age, she had a regular menstrual cycle with 4 to 5 days of normal bleeding and mild dysmenorrhea. Patient had no remarkable medical and family history

Transabdominal ultrasonography detected heterogeneously hypoechoic mass in the anterior wall of the uterus measuring 9.2 x 9.6 x 9.9 cm, slightly vascularized at the Color-Doppler. Ovaries were not visualized because they were obscured by the enlarged uterus. In magnetic resonance imaging a mass with heterogeneous enhancement in T1 was revealed. The patient's laboratory analyses, including tumor markers, were within normal range. Due to suspicion of uterine fibroid and no suggestions of malignancy abdominal myomectomy was scheduled. OmniCup delivery device of 50-mm diameter was used to enhance exposure during surgery and to provide optimization of the operating space. The postoperative period was uneventful. Histopathologically the tumor was diagnosed as a uterine leiomyoma.

**Conclusion:** Uterine leiomyomas should be considered in the differential diagnosis of abdominal pain and pelvic mass in adolescent girls.

**Key Words:** Adolescent, uterine leiomyoma, myomectomy.

Paediatric and adolescent gynaecology: case studies and literature review

## **Herlyn-Werner-Wunderlich syndrome: case reports**

Jariene Kristina (LT)

Lithuanian University of Health Sciences

Herlyn-Werner-Wunderlich (HWW) syndrome is a rare congenital Müllerian anomaly characterized by uterus didelphys, obstructed hemivagina, and ipsilateral renal agenesis. It typically presents during adolescence with dysmenorrhea, pelvic pain, and, in some cases, a palpable pelvic mass due to hematocolpos or hematometra. Early diagnosis is crucial to prevent complications such as endometriosis and infertility. Imaging techniques, particularly MRI and ultrasound, play a key role in detection. Treatment involves surgical correction, usually through vaginal septum resection, to restore normal menstrual flow and alleviate symptoms. Multidisciplinary management is recommended for optimal patient outcomes.

A clinical case of HWW syndrome in 13 year old girl will be presented

## Continuing the Exploration of PCOS

**PCOS: where are we now and where do we go next?**

Kosei Nataliia (UA), Plaksiieva Kateryna (UA), Pylypenko Anastasiia (UA)

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Polycystic ovaries syndrome (PCOS) is a highly prevalent complex disorder affecting different aspects of women’s entire lifespan, from the womb to post-reproductive years. PCOS is a heterogeneous condition with varying symptoms and degrees of severity, leading to diverse experiences among women at different stages of life. There were several major shifts in understanding the syndrome’s medical significance although views of its origins and pathogenesis are very contradictory. The theory of evolutionary origins of PCOS coexists with the hypothesis that PCOS is a syndrome of the 20th century. There are numerous major (HPO-axis dysfunction, folliculogenesis defect, insulin resistance, and hyperandrogenism) PCOS pathogenetic mechanisms and secondary ones (autonomous system dysfunction, gut microbiome e.c.t.) that need to be reevaluated in complex taking into account the phenotype.

The presentation covers the evolution of the definition of PCOS and diagnostic approaches from NIH criteria via Rotterdam criteria with phenotyping ending with a detailed analysis of emerging approaches to more discrete phenotyping. We highlighted remarkable studies hypothesizing principally different pathogenesis of nonclassical PCOS phenotypes. Another important landmark in PCOS research is the recognition of the fact that PCOS phenotype can change with age.

The current 2023 evidence-based guidelines on PCOS underline the need for medical specialists’ attention to the emotional and behavioral aspects of PCOS patients including eating behavior and stress coping. Addressing emotional state and eating behavior is essential for a permanent lifestyle modification. From the perspective of a country being subjected to unrivaled military aggression and terrorism, Ukraine accumulates nationwide evidence that PCOS women are an especially vulnerable population to chronic stress effects. In conclusion: 2023 evidence-based guidelines on PCOS recommend personalized management for every PCOS patient. Continuing our studies of PCOS pathogenesis and phenotypes will make this approach successful. Specifics of fertility period duration and menopause transition in PCOS women require further research for better global management.

Continuing the Exploration of PCOS

## Current epidemiology of PCOS and emerging approaches to phenotyping

Chaykivska Elina (UA), Kalugina Liudmyla (UA), Regeda Svitlana (UA), Tutchenko Tetiana (UA), Vasylichenko Liliia (UA)

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According to WHO, PCOS affects an estimated 8–13% of reproductive-aged women. The quoted prevalence of PCOS in different populations varies between 2% and 26%. Among numerous factors influencing the results of epidemiological studies diagnostic criteria play a major role. The 2024 meta-analysis showed PCOS prevalence of 5.5% (95% CI: 3.9–7.7%) based on NIH criteria, 11.5% (95% CI: 6.6–19.4) based on Rotterdam criteria, and 7.1% (95% CI: 2.3–20.2%) based on AES criteria, according to self-report subgroup analysis, the prevalence of PCOS was 11% (95% CI: 5.2–21.8%). The factors affecting Rotterdam criteria-based PCOS prevalence are sample size and characteristics like ethnic and socioeconomic homogeneity, referral, or unselected population; self-report PCOS or diagnosed by a medical specialist; methods used for the evaluation of diagnostic criteria (clinical or biochemical hyperandrogenism assessment, ultrasound scan accessibility), and others. Ethnicity, geographical, and economic areas significantly determine clinical presentation of PCOS due to different genetic and environmental predispositions to endocrine and metabolic aberrations. In this aspect, the distribution of PCOS phenotypic forms is the subject of many recent studies demonstrating conflicting results. Thus, ideally, the prevalence of PCOS in certain geographical areas has to be studied in an unselected population representative for all the socioeconomic and ethnic groups with exhaustive medical evaluation on every Rotterdam criterion.

The importance of PCOS epidemiological studies is not only in finding out the true prevalence of the syndrome and its phenotypes but also in the surveillance of the dynamics of their prevalence. Many sources claim that there has been an increase in PCOS prevalence during the past decades that can be attributed to environmental, epigenetic, socioeconomic, and other factors. Thus, it is important to verify whether this prevalence growth is true or whether it is due to improvements in diagnosis.

Heterogeneity in the pathogenesis and presentation of PCOS is bringing in new approaches to phenotyping. They include splitting of the 4 conventional Rotterdam phenotypes by anthropometric characteristics; regarding normoandrogenic forms as a separate ovulatory dysfunction and more sophisticated distribution based on gene clustering. Thus, PCOS phenotyping is an ongoing process with a good perspective to improve clinical management and solve the pathogenesis conundrum.

Continuing the Exploration of PCOS

## PCOS in clinical portraits

Pedachenko Natalia (UA)

National Healthcare University of Ukraine

Cross-sectional study conducted by the Ukrainian Society of Gynecological Endocrinology between September 2021 and January 2022 involving 42 clinics in 10 regional centres representing the major geographical parts of Ukraine had been performed.

Highlights: 1). It was the first large-scale study of the distribution of Rotterdam-based PCOS phenotypes in Ukraine 2). Phenotype A was the most prevalent – 47.7%, phenotypes B, C, and D were almost equally distributed (17.6 %, 17.4 %, and 17.3 % respectively) 3). The rates of obesity and hyperandrogenism symptoms were higher in classic phenotypes than in non-classic 4). At the same time, a phenotypic form does not exhaustively determine the anthropometric characteristics of a PCOS patient. The management of each type of PCOS should be made according to the age group, reproductive plans, main clinical complaint, metabolic status.

We found a higher percentage of obesity in the older age subgroups of phenotypes C and D compared to the younger age subgroups. Although this is a cross-sectional study, an effect of age on obesity rates in non-classical phenotypes can be hypothesized. LIFESTYLE MODIFICATION PROGRAMMES appears to be the first choice basic recommendation for all age and phenotype groups of PCOS patients.

Continuing the Exploration of PCOS

## Impact of liver function on the clinical presentation of PCOS

Manzhaliy - Christian Elina (UA), Tatarchuk Tetiana (UA), Tutchenko Tetiana (UA)

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Non-communicable diseases, including metabolic syndrome (MS), are becoming universally prevalent, no longer a direct consequence of classical models of unhealthy lifestyles. This is due to the growing role of their epigenetic nature in combination with environmental factors. Polycystic ovary syndrome (PCOS) is an example of a highly prevalent non-communicable pathology with variable clinical manifestations, but a strong association with cardiometabolic risks. Metabolically associated steatotic liver disease (MASLD) previously known as NAFLD is another non-communicable disease with increasing frequency (from 15% in 2005 to 25% in 2010). In 2023 EASL introduced a new classification of steatotic liver disease. It depicts the possibility of the coexistence of different etiological factors of steatosis without typical cardiometabolic risk factors. MASLD frequency is increased in obese and lean women with PCOS. Because the etiology and pathogenesis of PCOS and MASLD are not known management of these conditions is mostly symptomatic. At the same time, the presence of common risk factors and certain pathogenetic mechanisms creates the perspective of improving the effectiveness of their management based on a combined approach to scientific research and implementation of its results in medical practice.

Analysis of literature sources and our clinical observations leads us to the conclusion that interconnections between PCOS and MASLD are bilateral. Still, we state that in most cases PCOS is the primary trigger of liver steatosis formation in overweight and lean women with PCOS due to hyperandrogenism. Later, MASLD exacerbates endocrine disorders associated with PCOS (ovulatory dysfunction, ovarian androgen excess, and free androgen fraction) via decreased insulin clearance and sex-steroid-binding globulin synthesis. Ongoing liver dysfunction contributes to dyslipidemia, dysglycemia, and consequently metabolic syndrome.

Thus, early detection and management of MASLD in PCOS patients irrespective of the presence of obesity may facilitate PCOS symptom management and prevent metabolic complications.

Diagnostic and management challenges of abnormal uterine bleeding in different ages of a woman

## **Abnormal uterine bleeding due to ovulatory dysfunction (AUB-O)**

Pedachenko Natalia (UA)

National Healthcare University of Ukraine

Approaches to the diagnosis and treatment of abnormal uterine bleeding (AUB) are constantly updated in accordance with the receipt of new results of clinical studies and in the process of revising international clinical guidelines. These updates also need to be implemented in domestic clinical practice. Therefore, on October 20, 2023, the II Forum of Ukrainian Experts on AUB was held. During the Forum, a new multi-level three-component classification system “HyPO-P + GAIN-FIT-PIE” was taken into account, developed by the International Federation of Obstetrics and Gynecologists in 2022. The issue of correct classification of ovulation disorders is important for the diagnosis and management of AUB, since ovulation disorders are associated with deviations of the menstrual cycle characteristics from the norm, which ultimately leads to the development of functional AUB.

In order to optimize the management of patients with AUB, experts of the II Forum have developed an algorithm for the management of AUB taking into account the individual approach and characteristics of the patient, which is based on the current FIGO classifications - PALM-COEIN (2018) and HyPO-P + GAIN-FIT-PIE (2022). In this algorithm, the tactics of patient management depends on the type of disorders (structural, functional), the reproductive stage of the patient (adolescence, active reproductive age, perimenopause) and the need for contraception. The main direction of pharmacotherapy of functional AUB is the use of hormonal drugs - combined oral contraceptives and gestagens. Among gestagens, high efficiency of dydrogesterone has been proven from the first cycle of therapy.



Do sexual and reproductive health and rights initiatives really work? The case of Estonia

## **Impact of rapid socio-economic changes on sexual and reproductive health in Estonia in the end of the 20th and beginning of the 21st century**

Haldre Kai (EE)

Estonia has a population of 1.3 million. After regaining independence in 1991, from almost 50 years of Soviet occupation, Estonia has undergone major socio-economic changes, including profound educational and healthcare reforms. Systems for the collection of health statistics were established in early 1990s. Legislation changes have taken place to further SRHR.

Mandatory sexuality education lessons were introduced to the school curriculum in 1996. WHO 2010 “Standards for Sexuality Education in Europe: a framework for policy makers, educational and health authorities and specialists” forms the basis of the teaching at schools. First youth counselling services (YCC) addressing sexual health matters were set up in 1991–1992. There are 16 YCCs in 2025. Services are free for young people up to 26 years of age.

Contraceptive counselling is provided in women’s clinics’ outpatient departments, in gynaecologists’ private practice, by family doctors (primary care), midwives, YCC. Midwives have the right to prescribe contraceptives independently.

Breast and cervical cancer screening programmes are offered for free. HPV vaccination is free for girls and boys.

The first clinic targeting men’s sexual and reproductive health started in 2005 as Men’s Clinic of Tartu University Hospital.

The law regulating assisted reproductive technologies was adopted by the Parliament in 1997 and can be considered liberal. Unlimited number of IVF cycles and six IUI procedures are free for women less than 41 years of age. In 2021 6% of live births were the result of MAR care. Fertility preservation for medical reasons is covered by EHI for women and men.

Modern contraceptives arrived and became widely available since the early 1990s. Until that time abortion was the main method of regulating family size.

A very rapid decrease in abortion rate started immediately when modern contraceptives arrived. According to the published overviews the most prominent decline in abortion rate among women in reproductive age in Europe and the steepest annual percentage decline in teenage pregnancies globally took place in Estonia.

Pregnancy statistics are considered reliable. A substantial decrease in abortion rates occurred in the

Do sexual and reproductive health and rights initiatives really work? The case of Estonia

## Implementation of sexuality education and youth counselling services in Estonia

Kaha Mairi (EE)

[Kaha] Sexual Health Clinic

**Keywords:** sexuality education, youth sexual health center network (YSHCN), Estonia

**Aims:** To give an overview of the development of YSHCN (2001); the introduction of comprehensive sexuality education (CSE) into school curricula; and their effect on the indicators of sexual and reproductive health.

**Methods:** Based on the 2011 UNESCO study on the cost-effectiveness of CSE in Estonia, the 2015 Qalys Health Economics study on the cost of the YSHCN in 1991-2013 and the 2011 WHO study HIV Epidemic in Estonia: Analysis of Strategic Information. Other statistical data is from the yearly publications of the Estonian Health Development Institute (EHDI) and the Estonian Health Agency.

**Results:** Since the 1990s Estonia has seen substantial changes in sexual and reproductive health related attitudes, access to services and indicators. One of the key achievements is the establishment of the YSHCN. The history of the network can be divided into several stages: from the initial idea to a few project-based centers up until a unified state-funded network, coordinated by the Estonian Sexual Health Association (ESHA) and financed by the Estonian Health Insurance Fund and the EHDI. Stable and transparent financing by the state was the prerequisite of strategic planning and the development of universal quality standards. WHO has recognized the work of ESHA on YSHCN as a best practice model ([http://whqlibdoc.who.int/publications/2009/9789241598354\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598354_eng.pdf)). Human studies first became a part of the compulsory school curriculum in 1996. Curricula were updated several times, last in 2023. Around 18% of the subject now focuses on CSE.

The abortion rate has dropped from 70 (1992) to 11,47 (2023). Teen pregnancy rate has also decreased markedly. In 2023 the birth rate among girls 15-19 was 5,43 and abortion rate 8,84.

The 2011 UNESCO study illustrated that school-based sexuality education together with YSHCN are cost-effective in preventing HIV and unwanted pregnancies.

Analysis of Strategic Information of HIV epidemic in Estonia has shown if those trends continue (high quality sexuality education, YSHCN, the decline in newly diagnosed HIV cases among IDUs) it may be possible to avoid a big increase in heterosexual HIV transmission in the general population.

**Conclusions:** The significant positive changes in sexual and reproductive indicators in Estonia over the past 34 years can largely be attributed to the establishment of YSHCN as well as the introduction of CSE.

Do sexual and reproductive health and rights initiatives really work? The case of Estonia

## **Spectrum of simulation trainings in obstetrics and gynaecology in West Tallinn Central Hospital**

Khrustaleva Olga (EE), Süvari Liina (EE)

[Khrustaleva] West Tallinn Central Hospital, [Süvari] West Tallinn Central Hospital

### **Introduction:**

Pelgulinna Simulation Centre is a part of the Women's Clinic in West Tallinn Central Hospital – the second-largest maternity hospital in Estonia. Pelgulinna Simulation Centre organises simulation trainings in obstetrics and neonatology for multidisciplinary teams and for gynaecologists to develop psychomotor skills in endoscopic procedures according to the GESEA (Gynaecological Endoscopic Surgical Education and Assessment) programme.

### **Description:**

The multidisciplinary teamwork trainings are customised for medical staff working in maternity hospitals, neonatal intensive care, and emergency departments. The multidisciplinary trainings simulate practical scenarios. The trainings are combined with the principles of crisis resource management and are focused on interprofessional communication and communication between healthcare professionals and patients. Teamwork simulations have been an excellent tool for optimising patient care pathways and improving safety culture in healthcare.

In addition to providing the simulation trainings in our clinic, another 13 healthcare centres have benefitted from skill training. Our trainers help to develop a simulation-based learning community of medical professionals with train-the-trainer courses.

Our certified instructors conduct regular sessions to support gynaecologists preparing for the minimally invasive surgery exam. The laparoscopic skill training is based on the GESEA programme. Thus, the aim is to introduce laparoscopic instrumentation, teach correct handling of instruments, and acquire and develop psychomotor skills in performing endoscopic procedures (laparoscopic suturing or office hysteroscopy procedures). One of the goals is to encourage junior doctors to practice technical skills safely on pelvic trainers and implement new skills in the operation room. As a result, the quality of the treatment offered to the patient improves, and the surgeon's competence increases significantly.

New Trends in Gynecological Endocrinology

## Metabolic consequences of hyperprolactinemia from diagnosis to treatment

Kostrzak Anna (PL)

Hyperprolactinemia is one of the most common dysfunction of the hypothalamic-pituitary axis.

Prolactin is known as lactotrophin is synthesized in the lactotrophin cells of the pituitary gland. Prolactin is a 199 peptide hormone confirmed in humans in 1970 by Henry Friesen. The major regulator of prolactin secretion is dopamine. Hyperprolactinemia impairs the pulsatile secretion of hypothalamic gonadoliberein ( GnRH) and the production of follicle stimulating hormone (FSH) and luteinizing hormone ( LH).

Hyperprolactinemia can occur in physiological and pathological conditions but also can be induced by drugs ( antipsychotics, antidepressants and estrogens). Signs, symptoms associated with hyperprolactinemia vary and may include menstrual disturbances, galactorrhea, infertility and hirsutism.

Over the years the metabolic role of prolactin has arisen. Hyperprolactinemia has been associated with regulating appetite determining hyperphagia leading to increase in food intake. The impact of hyperprolactinemia on lipids profile seems to be cleared.

Hyperprolactinemia increased homeostatic model assessment index ( HOMA- IR). There are still challenges in the future in the front of us.

New Trends in Gynecological Endocrinology

## Assessment of body composition tool for endocrinologist

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Body composition measures overall health and fitness level in terms of your body fat percentage. It measures the difference between how much of your weight comes from fat and how much from muscle. Body composition refers to the relative proportion of lean body mass (LBM) and body fat mass (BFM) within the body. LBM can further be subdivided into muscle mass, body water, and bone mass. These two approaches are commonly referred to as a two-compartment model (LBM and BFM) or a four-compartment model (BFM, muscle mass, body water and bone mass) for assessing body composition. The most widely used parameters which help to diagnose obesity are body mass index (BMI), waist circumference (WC), waist-to-hip ratio (WHR), visceral fat area (VFA), and body fat percentage (BFP). Visceral fat accumulation may be associated with low levels of estrogen in females possibly due to the expression of estrogen receptors in the adipose tissue. Studies suggest that the interaction of estrogen with endocrine factors and its receptors in hypothalamus or other body parts is responsible for the regulation of body weight via modulating energy expenditure. It is known, that androgens play an important role in distribution of adipose tissue in the human body. There is correlation between androgen levels and amount of abdominal fat and visceral adipose tissue. It was also demonstrated that women with abdominal obesity have lower concentrations of sex hormone binding globulin (SHBG), which supports the thesis that free androgens are related to increased visceral fat accumulation.

As it is proven, that hormones influence the distribution of fat and muscle tissue, assessment of body composition can be used in the endocrinological diagnostic process. It is established, that women with PCOS, especially non-obese women, appear to accumulate more of trunk, body, android, abdominal subcutaneous, and visceral fat compared to BMI-matched controls. Therefore, body composition appears to be an important factor in the pathogenesis of PCOS. Similarly, during menopausal transition significant acceleration of fat mass increase and lean mass decline and shifts in fat distribution can be observed.

It is also proven, that women in the postmenopausal stage show a significant increase in visceral fat in comparison to their baseline when they were premenopausal.

# Oral Presentations



Adolescence, PCOS, gynecological Endocrinology, AUB

## Contributions to the study of menarcheal age in Bacau county Romania

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### Abstract

**Objectives:** Given the downward trend in age at menarche and its implications for the health and wellbeing of women, little is known about menarcheal age in Romania. The aim of this study is to determine the age of onset of menarche and the factors which induce it in Bacau county.

**Methods:** This study was conducted among 300 girls from Bacau county. The data was collected retrospectively in the form of a structured questionnaire that gathered information on the girls, including demography, anthropometry, menarcheal date, behavioral habits and physical activity. The data collected was analyzed using the Statistical Package for the Social Science (SPSS.16). Statistical significance was determined at  $P < 0.05$ .

**Results:** The mean age at menarche was observed to be 13.28 years (ranging from 9.8 to 18). Mean menarcheal age for the rural and urban girls was 13.35 years and 13.21 years, respectively. The girls had their first menses approximately one year earlier than did their mothers. The study showed that menarche occurred during summer for 132 (45.2 %) patients making it the most common season for menarche.

**Conclusions:** Results of this study showed positive correlations between age of menarche and BMI, SES, level of physical activity and other factors.

**Keywords:** age at menarche, puberty, BMI, socio-economic status

Adolescence, PCOS, gynecological Endocrinology, AUB

## Reaching out to patients: real-world evidence underscores lack of awareness and diagnosis for primary dysmenorrhea but not premenstrual syndrome (PMS)

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**Context:** Menstrual discomfort is prevalent, varies in severity, and markedly deteriorates quality of life of affected women. 94% of adolescents aged 10–20 and about 9% of women aged 19–41 suffer from menstrual pain, according to WHO data.

Dysmenorrhea (DYS), one of the most common menstrual complaint, manifests as mild to severe pain during menstruation and affects >40% of women throughout their reproductive lifespan. Despite being widespread, DYS is often endured silently as “female fate”. Consequently, a vast majority of DYS patients do not seek medical advice and, thus, might not be reached via medical practices.

**Objectives:** To explore usefulness of an online direct-to-patient campaign to characterize prevalence of DYS, complaints and diagnosis status of DYS patients as well as to reach affected women for clinical trial recruitment.

**Methods:** Women with menstrual pain were targeted in an online campaign via Facebook and Google in GER, AT and POL from April to June 2023 and asked about their diagnosis status, pain levels, comorbidities, general eligibility and willingness to participate in clinical trials.

**Results:** 3546 women with menstrual pain were reached by this online campaign, 95% of whom reported symptoms in line with DYS. About 80% of these women have had pain since adolescence, indicating primary DYS.

On a numeric rating scale (0 to 10), the vast majority of affected women endure pain levels of 6 or higher. While most women report being undiagnosed or are uncertain about having a diagnosis, fewer than half of those diagnosed with a menstrual condition received a DYS diagnosis. This stands in stark contrast to the 95% of women reporting DYS symptoms in our survey. For PMS, however, the situation differs: diagnosis rates align with the proportion of women reporting PMS symptoms.

In addressing the key characteristics of the women who participated, we also assessed trial eligibility rates.

**Conclusions:** We used an online direct-to-patient campaign to reach women with menstrual pain, and the data obtained confirm a high prevalence of menstrual complaints, with the majority of affected women suffering from DYS. Despite this, the data also reveal a DYS underdiagnosis: only ~5% of women with DYS symptoms were diagnosed with DYS. Together, these data emphasize the need to create awareness for DYS and indicate the usefulness of online campaigns to reach patients e.g. for surveys or clinical study recruitment to finally improve the treatment situation for DYS.



Adolescence, PCOS, gynecological Endocrinology, AUB

## The Effects of Asprosin on Metabolic and Reproductive Hormonal Factors in the Rats

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**Objective:** Recent researches suggest that body adipose tissue plays a critical role in reproductive system. It is an active endocrine organ and secretes hormones called adipokines. Considering the association of adipose tissue with the reproductive processes, it is thought that adipokines may also have a potential effect on reproductive physiology. The effects of asprosin, a newly discovered adipokine, on reproductive physiology is unknown. The aim of this study is to reveal the physiological role of asprosin hormone on reproductive function in addition to metabolic factors in the male and female rats.

**Material and Methods:** In the study, 48 male and female Sprague Dawley rats were used. In the experiments, asprosin (500ng/kg/day) was administered intraperitoneally (i.p.) to the animals in the asprosin group for 8 weeks starting from the 21st postnatal day, and saline, the solvent of asprosin, was administered to the animals in the control group. During the experimental period, some metabolic and reproductive parameters were investigated. SPSS 22 package program was used for data analysis and significance value was taken as  $p \leq 0.05$ .

**Results:** No significant difference was observed in serum ghrelin and GH levels in the asprosin group compared to the control values in the male rats whereas asprosin administration significantly increased serum ghrelin and GH compared to the control group ( $p < 0.05$ ) in the female group. The significant increases were detected in corticosterone levels in the male and female groups ( $p < 0.05$ ). Chronic asprosin administration increased serum testosterone and estradiol levels in male and female rats ( $p < 0.05$ ), respectively.

**Conclusions:** Asprosin may have stimulatory effects on the reproductive system in male and female rats. However, we believe that more research is needed to determine the mechanism by which asprosin affects reproductive ability.

This study was supported by TUBITAK (Project # 220S744).

Adolescence, PCOS, gynecological Endocrinology, AUB

## Impact of Weight on Hormonal and Metabolic Patterns in Classic Polycystic Ovary Syndrome Across Age Groups

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**Context:** Polycystic Ovary Syndrome (PCOS) is a multifaceted endocrine disorder influenced by weight and age. Weight significantly modulates the clinical and metabolic expression of PCOS across the lifespan. A weight-sensitive approach to diagnosing and managing PCOS across different age groups enables tailored care that addresses metabolic and reproductive concerns.

**Objective:** To investigate weight-associated hormonal and metabolic patterns in adolescents and adults with classic PCOS.

**Methods:** Cross-sectional observational study included 52 patients aged 12–35 years with classic PCOS, categorized into adolescents (Group A) and adults (Group B). Each group was further divided based on weight: lean (Group AI: 13 patients, mean age  $15.4 \pm 1.9$ , BMI  $21.2 \pm 2.4$ ; Group BI: 15 patients, mean age  $26.5 \pm 4.8$ , BMI  $21.8 \pm 2.1$ ) and overweight/obese (Group AII: 12 patients, mean age  $15.5 \pm 1.6$ , BMI  $29.4 \pm 4.2$ ; Group BII: 12 patients, mean age  $25.9 \pm 6.4$ , BMI  $31.5 \pm 4.3$ ). Descriptive statistical analyses were used for evaluation of hormonal and metabolic profiles using SPSS v26.0.

**Results:** Overweight/obese adolescents (AII) and adults (BII) demonstrated significantly higher insulin, glucose, and HOMA-IR levels compared to their lean counterparts. No significant differences in testosterone, free androgen index, LH/FSH ratio, or AMH levels were observed between lean and overweight/obese individuals within each age group. However, overweight/obese adults (BII) exhibited significantly elevated DHEA-S levels compared to lean adults (BI) unlike adolescents groups (AI and AII). AMH levels were higher in overweight/obese adolescents (AII) than in adults (BII), with no significant differences noted among lean groups.

**Conclusions:** In classic PCOS, hyperinsulinemia and insulin resistance are strongly linked to weight across all age groups. Elevated DHEA-S in overweight/obese adults highlights age-specific androgen patterns, while increased AMH in overweight/obese adolescents reflects more pronounced ovarian dysfunction. These findings underscore the importance of weight management in addressing the metabolic and hormonal challenges of PCOS across age groups.

Adolescence, PCOS, gynecological Endocrinology, AUB

## **A Case Series of Secondary Amenorrhea in Lean PCOS Women. To the question of Functional Hypothalamic Amenorrhea Development in PCOS**

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PCOS presentation and natural history are variable. The problem of overnutrition, adiposity, and consequently metabolic complications in PCOS are established. Less is known about the effect of underweight and undernutrition on PCOS women's reproductive and metabolic profile. Estrogen levels in PCOS are on average equivalent to the mid-follicular phase, but there are few studies of E2 levels associated with body mass and cycle. Young women with FHA can overlap with polycystic ovarian morphology (PCOM) posing the need for differential diagnosis. Some authors hypothesize the possibility of FHA development in women with preexisting PCOS. **OBJECTIVE** To provide a detailed description of patients with confirmed preexisting PCOS who developed secondary amenorrhea following weight loss. To discuss observed cases from the perspective of a specific FHA phenotype.

**METHOD** Case series.

**PATIENTS** Six patients aged 20 to 28 years.

**INTERVENTIONS** retrospective analysis of medical records and history, BMI, SCOFF questionnaire, TVU, FSH, LH, E2, FAI, A4, DHEAs, prolactin, TSH, ATPO, dietary recommendations, estrogen and progestogen replacement, and follow-up.

**MAIN OUTCOME MEASURES** BMI dynamics, ovarian morphology, endometrial thickness, cycle characteristics under interventions.

**RESULTS** The first patient was referred to our department in 2021 at the age of 20 because of 6 months of amenorrhea and the absence of withdrawal bleeding after progesterone. Starting from 15 years of age (3 years after menarche) she was suspected of PCOS based on long intermenstrual intervals (38-56 days), no signs of ovulation and PCOM on TVU, mild hirsutism, and acne. Her LH/FSH ratio was consistently >1.5. She had elevated total testosterone, and A4, while FAI, SSBG, and DHEAs were in an upper normal range. She had a single record of early follicular estradiol level – 55.1pg/L. Her BMI was steady (19.8) until 2021 when she had a stressful period with a loss of appetite leading to a decrease of BMI to 18.1. We found monotonously low 4.2-5.1 MU levels of LH, low E2 (22pg/L), mildly elevated A4, and total T, PCOM, and thin (2.2mm) endometrium. After normalizing BMI and 3 courses of estroprogestin therapy she returned to lean PCOS A phenotype with spontaneous menstruations. During the next 2 years, we observed 5 similar cases.

**CONCLUSIONS** Despite significant limitations our results support the theory that the development of a hypoeutrogenic condition similar to FHA is possible in lean PCOS women.

Adolescence, PCOS, gynecological Endocrinology, AUB

## The add-back concept revisited

Calaf Alsina Joaquim (ES)

**Context:** The advent of oral GnRH antagonists has ushered a new era in the management of Heavy Menstrual Bleeding (HMB) caused by uterine fibroids. Like what happened with long lasting intramuscular GnRH analogues, optimal outcomes, especially in reducing tumor size, are achieved by significantly lowering estrogen levels. However, sustained hypoestrogenism leads to side effects such as vasomotor symptoms, insomnia, vaginal dryness, and bone loss. To counteract this, Barbieri proposed 25 years ago using a standard estrogen dose as “add-back” therapy to alleviate side effects while preventing disease recurrence, enabling long-term treatment. This hypothesis assumed a universal estrogen threshold to balance efficacy and side effects. However, no dose-finding studies were conducted, and standard “low-dose” of MHT became the default add-back therapy.

Since then, new alternatives for add back, either in type of molecule, form and route of administration have become available and the concept deserves to be “revisited”

Moreover, one of the antagonists is available in different dosages and allows for different add-back strategies.

**Objective:** To systematically review the current alternatives for add-back therapy in the management of uterine fibroids, focusing on novel estrogen administration methods that were unavailable when the concept was first introduced

**Methods:** We are conducting a systematic search in PubMed, Embase, Ovid, and Cochrane Library for clinical trials on GnRHa, add-back therapy, and uterine fibroids published between January 1998 and December 2024. Keywords include “add-back,” “HRT,” “GnRHa,” “GnRH agonist,” “GnRH analogues,” “fibroid,” and “myoma.” The review will focus on studies correlating circulating estrogen levels with symptom relief, changes in bone turnover, and fibroid size reduction.

**Interventions:** Identifying individualized, efficient, and safe add-back approaches for patients using oral GnRH antagonists, considering various estrogen and progesterone/progestogen combinations and administration routes.

**Results:** A narrative review will outline the strengths and weaknesses of combining oral GnRH antagonists with flexible or fixed-dose hormonal therapies.

**Conclusions:** This presentation will share the initial findings of the study, analyzing identified articles to propose individualized add-back strategies for long-term treatment.

Adolescence, PCOS, gynecological Endocrinology, AUB

## Menstrual cycle disorders and hormonal homeostasis in women with adenomyosis and uterine leiomyoma who were exposed to factors of military aggression.

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**Context.** Today, military aggression in Ukraine is the main stress factor that creates acute and long-term health problems women of reproductive age.

**Objective.** To study the hormonal homeostasis in women with adenomyosis and uterine leiomyoma based on the determination of stress hormones and thyroid hormones in the conditions of military aggression in Ukraine.

**Patient(s).** 90 women with adenomyosis and leiomyoma of the uterus were examined in the conditions of military aggression in Ukraine: 1 group - 30 women who were in the occupied territories, 2 group - 30 women who were under the influence of the factors of the armed conflict, 3 group - 30 women internally displaced during the armed conflict. The control group - 30 women of reproductive age with adenomyosis and uterine leiomyoma, who were not under the influence of factors of armed conflict.

**Methods.** The study of concentrations of TSH, prolactin, cortisol, TPO was carried out by the immunochemiluminescence method using standard test systems from SIEMENS, Germany.

**The results.** Abnormal uterine bleeding was noted by 80% of women of the 1 group; 83.3% in the 2 group and 73.3% in the 3 group. Heavy menstrual bleeding was noted by 75% of women in the 1 group, 68% in the 2 group and 72.7% of women in the 3 group against 37.5% of women in the control group. The concentration of prolactin was  $(26.73 \pm 3.88)$  ng/ml in 1 group;  $(22.35 \pm 3.57)$  ng/ml - in 2 group and  $(22.55 \pm 4.43)$  ng/ml - in 3 group,  $(9.75 \pm 1.63)$  ng/ml - in control group, ( $p < 0.05$ ). The concentration of cortisol in 1 group was  $(24.93 \pm 2.50)$  µg/dL, in 2 group -  $(16.47 \pm 2.11)$  µg/dL and in 3 group -  $(21.43 \pm 2.95)$  µg/dL,  $(9.04 \pm 0.78)$  µg/dL in control group, ( $p < 0.05$ ), an increase of its concentration could be evidence of an acute stress reaction. The analysis of TSH concentration established an excess of TSH limit concentrations in 35.3% of women in the 1 group, 26.3% in the 2 group, and 22.4% in the 3 group. The analysis of TPO concentration determined its increase in 40.2% of women of the 1 group, in 32.7% of women of the 2 and in 36.7% of women of the 3 group, which was detected for the first time during the examination.

**Conclusions.** In women who experienced acute and chronic stress, a 2-fold increase in the frequency of heavy uterine bleeding was observed. In all studied groups, pathologically elevated concentrations of prolactin and cortisol were found against the background of signs of subclinical hypothyroidism and autoimmune thyroiditis.

Adolescence, PCOS, gynecological Endocrinology, AUB

## A sequential approach to fibroid management with oral GnRH antagonists.

Calaf Alsina Joaquim (ES)

**Context:** The management of symptomatic uterine fibroids may encompass several outcomes. From the management of Heavy Menstrual Bleeding to pain secondary to compression or to make conservative surgery feasible and easier.

The goal in these objectives can be obtained by different aspects of their mechanism of action: While the control of bleeding and subsequent amenorrhea is reached by the blockade of the central hypothalamic system, maintaining fair acceptable estrogen levels, the decrease in tumor size is only reached with lower estrogenic levels.

GnRH antagonists exhibit a dose-response effect on circulating estradiol levels and one is available in different doses allowing for flexible regimens. Thus, the administered dose can be titrated according to the short-term response. Even if the reduction is obtained in a reduced period the re-growth with slightly higher dose takes longer and rarely reaches the initial values.

Simultaneously, the occurrence of clinical side effects as hot flushes, insomnia or vaginal dryness is also closely bound to estrogen levels. Consequently, the management of each patient has to combine wisely the options to obtain different benefits and control side effects along time. In summary: establishing sequences in the treatment targeting different and consecutive goals may allow an efficient strategy

**Objective:** To identify a combination of sequences that combine different doses of the antagonist, with or without add back, according to the individual patient needs

**Methods:** We are conducting a systematic search in PubMed, Embase, Ovid, and Cochrane Library for clinical trials on GnRHa, add-back therapy, and uterine fibroids published between January 1998 and December 2024. Keywords include “add-back,” “HRT,” “GnRHa,” “GnRH agonist,” “GnRH analogues,” “fibroid,” and “myoma.” The review will focus on studies correlating the type of GnRH analogue (namely GnRH antagonists or Depot GnRH agonists) and the time needed to a sustained tumor size decrease. Likewise, the effect of an increase in estrogen levels as a consequence of a decrease in the dose of the antagonist or estrogen add back on fibroid re-grow

**Interventions:** To build up a treatment diagram describing different sequences, combining doses of antagonist with or without “add back”

**Conclusions:** This presentation will propose an evidence base treatment diagram to individualize dose adjustment and add-back strategies for a safe long-term treatment.

Adolescence, PCOS, gynecological Endocrinology, AUB

## Endometrial cancer in Hormone replacement therapy users with postmenopausal bleeding: Retrospective cohort study

Sarodey Geet (GB)

St Bartholomews hospital

**Objective :** To establish the endometrial cancer detection rate in women using hormone replacement therapy presenting with postmenopausal bleeding.

**Study Design:** Retrospective cohort study.

**Setting and population:** Rapid access gynaecology clinic at a tertiary hospital. Women aged under 60 years referred with postmenopausal bleeding.

**Methods:** Retrospective study of referrals received between 1 January 2023 and 31 December 2023 including Hormone replacement therapy (HRT) use and histological diagnosis.

**Main outcome measures:** Histological diagnosis of endometrial cancer, or hyperplasia.

**Statistical analysis:** Chi squared test

**Results:** 1472 women were included. 248 women were using HRT when they experienced Post menopausal bleeding and only one of these had endometrial cancer at histology (cancer detection rate 0.47%). 26 of the 1215 women who were not using HRT were diagnosed with endometrial cancer on histology (cancer detection rate 2.18%). Chi squared statistical analysis confirmed this was statistically significant (p value .0156).

**Conclusions:** The endometrial cancer detection rate in women aged under 60 years using HRT with Post menopausal bleeding is very low. Referral on a two-week wait pathway for suspected cancer diagnosis induces stress and anxiety for the woman and may lead to more invasive initial investigation even though other diagnoses are far more likely. Women aged under 60 years with postmenopausal bleeding that have either commenced HRT or had a change to their preparation within the last 6 months should be seen on a less urgent referral pathway, if necessary given the very low probability of endometrial cancer. The new joint guidelines by British Menopause Society on unscheduled bleeding on HRT released in April 2024 addresses this.

Adolescence, PCOS, gynecological Endocrinology, AUB

## Intrauterine Balloon Tamponade for management of life threatening menorrhagia.

Abdelrahman Mohamed (IE)

Coombe Hospital

**Study Objective:** Intrauterine Balloon Tamponade for management of life threatening menorrhagia.

**Design:** case-report

**Setting:** Hospital

**Patients or Participants:** 44-year-old female, Para 1, first child died at full term after 6 weeks with muscular dystrophy. Known carrier of DMPK gene. Had history of heavy periods for more than a year, with no gynecology review. Presented to the hospital with twisted foot that was diagnosed as fibular fracture and put on orthopaedic boot. Later, presented with bilateral legs and arms pain. CT-angiogram of lower limbs showed complete occlusion of left common femoral, right superficial femoral arteries, required embolectomy. Also complete occlusion of the proximal left brachial artery, with the distal reconstituted brachials. Radial and ulnar arteries were narrowed calibre, but with patent wrist.

**Interventions:** Repeat CT-angiogram showed unchanged occlusion of all arteries.

Also noticed enlarged uterine fundus relate to fibroid. Had below knee amputation on the right and above knee on the left leg. Haematologically Beta2 Glycoprotein IgM was high. Developed severe vaginal bleeding in the hospital, hemoglobin dropped from 14.5 to 7.9 in 4 days. Prothrombin time was high at admission and Fibrinogen was raised.

After MDM decision made for hysteroscopy, dilatation, curettage, ablation and balloon tamponade using three way catheter size 14 with 90 ml of water filled. Balloon was removed after 9 days. Doppler showed no necrosis around the uterus, with no further bleeding.

**Measurements and Main Results:** Anti-phospholipid syndrome is associated with the presence of venous or arterial thrombosis. However, in some rare cases bleeding can occur. Our patient was diagnosed with APS, with a recent history of menorrhagia, who was admitted to our hospital with bilateral limb ischemia, this made management with anticoagulant challenging. Intrauterine tamponade by balloon is used for management of post-partum hemorrhage for 1 to 48 hours. In our case, three way catheter balloon tamponade controlled bleeding. There are no cases reported to have balloon tamponade for more than 48 hours, balloon was left for 9 days with no ischemia or necrosis identified.

**Conclusion:** Bleeding and thrombocytopenia can concomitantly occur with thrombotic complications of APS. Endometrial ablation in addition to extended use of balloon tamponade is an effective treatment.



Labour and delivery

## Retrospective study of birth outcome and birth complications in patients with increased BMI in a Riga Hospital Labor department, 2023.

Dinsberga Beatrise (LV), Erts Renars (LV), Krastina Zane (LV), Vasika Natalja (LV), Vitola Beate (LV)

[Dinsberga] University of Latvia, [Erts] University of Latvia, [Krastina] University of Latvia; Pauls Stradins Clinical University Hospital, [Vasika] University of Latvia, [Vitola] University of Latvia

**Context.** The prevalence of overweight and obesity among women is rising both globally and in Latvia, exerting a significant impact on maternal and fetal outcomes during childbirth.

**Objective.** To investigate labor outcome and complications among patients with overweight and obesity at Riga Hospital Labor department in 2023.

**Methods.** The study used a retrospective research design. All cases of patients who gave birth in 2023 in this labor department were analysed. Different statistical tests were performed to observe correlations of maternal high BMI and labor outcome and complications. In this study we analyzed population of 1184 labor ward patients in single hospital in 2023. 384 were identified as having obesity or being overweight. This research evaluates the association of amniotomy, total Misoprostol dosage, and Bishop's Score with labor complications and neonatal outcomes.

**Patient(s).** The study included pregnant women aged 18–50 years with a body mass index (BMI)  $\geq 25$  and singleton pregnancies, who gave birth in the maternity department of Riga Hospital Labor department 2023.

**Main Outcome Measure.** Elevated BMI connected health issues impact on labor outcome and complications.

**Result(s).** Among the 1184 patients included in the study, 32.5% had an elevated BMI. Vaginal deliveries occurred in 51% patients, while 49% underwent Cesarean sections. Elevated BMI was associated with prolonged first and second stages of labor. Elevated BMI showed a statistically significant correlation with the prolonged first stage of labor, total Misoprostol dosage, and the Bishop score at the start of induction.

**Conclusions.** Elevated BMI is significantly associated with prolonged labor stages and increased Misoprostol dosage, as well as lower Bishop scores at the start of induction, indicating a more challenging labor process. These findings highlight the impact of maternal obesity and overweight on labor outcomes and complications, emphasizing the importance of targeted interventions for this population.

## Labour and delivery

## Retrospective study of birth outcome and complications in patients with induced labour in a single hospital in Riga 2023

Dinsberga Beatrise (LV), Ertis Renars (LV), Krastina Zane (LV), Vasika Natalja (LV), Vitola Beate (LV)

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**Context.** Numerous studies have highlighted the positive role of labor induction and the tendency is observed that the number of indications for labor induction is steadily increasing and different methods have been evaluated.

**Objective.** To identify the most commonly used induction methods at one of two delivery hospitals in Riga, evaluate their impact on the course of labor, complications and neonatal outcomes in this department.

**Methods.** The study used a retrospective research design. Different statistical methods were used to analyze the data. In this study, 1184 labor ward patients in a single hospital in 2023 were analyzed. Induction was used for 397 patients (33,4%) of all 1184 patients included in this study.

**Patients.** The research included pregnant women at reproductive age (18-50) with singleton pregnancy who underwent labor induction (N=397) in the maternity department of a single hospital in Riga in 2023.

**Main Outcome Measures.** Distribution of labour induction methods in a single labour department. Different labour induction methods impact on labour outcome and complications.

**Results.** Out of 397 induced deliveries, amniotomy was the most commonly used method, followed by misoprostol and Foley catheter, frequently combined. Induction was successful in 70,2% (natural delivery acquired) of cases but failed in 29,8% (Cesarean Section was performed). A statistical significance appears between misoprostol dose and Apgar score 5 min, as well as the correlation between Bishop score at the start on the labour induction and length of first stage of labour. Strong correlation absorbed between amniotomy and blood loss during labour.

**Conclusions.** Induction of labor is a common obstetric procedure that is safe and widely used. At this department in 2023 the most frequent labour induction was non medical method -amniotomy, followed by a combination of methods. Further and better research is needed on each of the induction methods to evaluate their impact on newborns (Apgar score) and labor complications such as length of labour, blood loss etc. to improve obstetric outcome.

## Labour and delivery

## Cesarean Section rate in Robson groups as quality measure of evidence based obstetrical care in Latvia and single reference level hospital in Latvia in six years period.

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**Context.**

Robson groups is global standard for recording, analyzing and comparing Cesarean Sections data both nationally and globally. All patients at birth are divided into 10 categories, which are comprehensive and mutually exclusive. Worldwide tendency of growing numbers of operative deliveries require more detailed analysis of indications in specific groups and gives us possibility of more categorized observations and conclusions.

**Objective.** To compare numbers of Cesarean sections in certain Robson groups among different hospitals in Latvia in 6 years period from 2018 till 2023. To investigate more detailed indications in larger Robson groups in a single Reference level hospital in 2023.

**Methods.** The study used a retrospective research design, collecting data from Latvia Center of Disease Control and Prevention of Robson group profiles in all country in six years period. Also data from all CS in single Reference level hospital in 2023 was retrospectively collected. Indications in largest Robson groups 2, 5 and 10 were analyzed in this hospital.

**Patient(s).** Total number of CS in this single department in 2023 was 503 (from total number of 1184 deliveries). Patients in largest CS groups 2, 5, and 10 where accordingly 223, 162 and 151.

**Main Outcome Measure.** Dynamics of CS in Robson groups in Latvia in six year period and detailed indications in largest groups in one Reference level hospital in 2023.

**Result(s).** Among the 1184 patients 503 (49%) underwent CS, Patients in largest CS groups 2, 5, and 10 created accordingly 21,3 %, 28,4 % and 13,5 % of total number of CS in this Reference level hospital.

**Conclusions.** Positive trend in Latvia – reduction of SC share in the 5th Robson group (singleton pregnancy with previous uterine scar) over a 6-year period. As the number of labor inductions increased, the proportion of CS in group 2 has not increased. Robson's classification allows to analyze indicators in different ways depending on the set goal and it is possible to evaluate the influence of the indicators of each group on the total number of CS. Analysis of CS trends in the whole country and Reference level hospital can help establish the impact points to prevent growing numbers of CS, such as patient and/or specialists education on targeted subjects (for example - "Safety of natural birth after a previous CS").

Labour and delivery

## Pregnancy and Labour in a Primary Early-Onset Dystonia Patient Treated with Deep Brain Stimulation of Globus Pallidus Internus: A Case Report and Literature Review

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**CONTEXT.** The clinical use of deep brain stimulation (DBS) is among the most important breakthrough in the clinical neurosciences in the 21st century. Over 160,000 patients worldwide have undergone DBS surgery, for a variety of neurological and psychiatric disorders, with numbers increasing each year. There is a lack of literature about management of pregnancy and labour in these patients.

**OBJECTIVE.** To report a case of a patient with primary dystonia that became pregnant and delivered while being treated with DBS.

**METHODS.** We present a rare case report and a literature review.

**RESULTS.** We report a first case of pregnancy and delivery management of 33-year-old primary early-onset DYT-1 dystonia patient which was being treated with DBS in Lithuania. Patient got pregnant 10-years after DBS surgery. Neurostimulator was implanted in subcalvicular area. In the first trimester of pregnancy, patient was hospitalised twice due to recurrent episodes of fever of idiopathic origin. Patient was consulted by geneticist, amniocentesis and comprehensive second trimester foetal ultrasound was done - no inheritance or other foetal pathology was observed. In the third trimester of pregnancy, some issues with neurostimulator's battery occurred, therefore, patient was consulted by a neurosurgeon and the neurostimulator's battery replacement was planned after the delivery. Spontaneous delivery occurred at full term by 39 weeks' gestation, epidural anesthesia was administered at the patient's request. Postpartum period was uneventful. According the reviewed literature, for women of reproductive age that needs DBS surgery, neurostimulator should be located in subclavicular area. In addition, the condition of a neurostimulator's battery should be assessed in case of pregnancy planning. There are no standardized guidelines for pregnancy care and delivery tactics for patients with DBS. Diagnostic ultrasound is safe. There are reported cases of uncomplicated natural and C-section deliveries. As reported, the main cause of deliveries through C-section was unknown risk of natural delivery. In case of surgical delivery, to minimize electromagnetic interference, the DBS device should be turned off during operation. Due to potential interactions with DBS system, only bipolar electrocautery should be used in safe distance with the device and its leads.

**CONCLUSIONS.** Condition with DBS should not be a contraindication to pregnancy or vaginal delivery.

## Obstetrics

## Simplified technique of trans laparoscopic cerclage for late miscarriage: a 120 cases continuous series

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Cervical insufficiency is estimated to be present in up to 1% of the population. The condition leads to late miscarriage between 14 and 23 weeks of gestation or premature labor. Diagnosis of cervical insufficiency is difficult because no specific test is available except under special conditions, such as previous trachelectomy or extensive cone biopsy and many cervixes prove to be incompetent only during pregnancy. Therefore, the patient's history is important to consider.

Treatment of cervical incompetence during pregnancy is limited to progesterone or emergency cerclage with a rather poor success rate. Classical vaginal cerclage (e.g., McDonald or Shirodkar) is still often proposed at the end of the first trimester, with limited efficacy. An alternative method known as "definitive cerclage" has been proposed via a vaginal route (i.e., supracervical cerclage) or transabdominal route and was first described by Benson in 1965 (1). Transabdominal cerclage (TAC) may be performed through laparotomy but is completed more and more by laparoscopy or with robotic assistance. Here, we describe a simplified laparoscopic technique using percutaneous needle (Endoclose) 120 patients having had 1 to 4 late miscarriages have been enrolled in this study. the obstetrical outcomes are as follow: pregnancy: 98 (81,6%), first trimester miscarriage 10 (10,2%), delivery after 37 weeks of gestation 86 (97,7%), failure : 2 (2,3%)

There was no complication until now and the average operative time was 14 minutes

Therefore we consider appropriate to propose TAC after one late miscarriage providing that the patient is well informed . Indeed it has to be a shared decision since cesarian section is required ,but usually after dramatic obstetrical outcome, patient are very keen to receive a treatment which gives the best chance to obtain a newborn

## Obstetrics

# Enhancing the Monitoring and Management of Gestational Diabetes through Digital Health Solutions

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**Context** Gestational diabetes mellitus (GDM) affects pregnant women, with long-term impacts on maternal and fetal health. Early identification and continuous monitoring are crucial for reducing complications. Traditional healthcare systems face challenges like long wait times, limited resources, and insufficient patient engagement. Digital health tools offer solutions to improve GDM management.

**Objective** This pilot aims to enhance GDM monitoring by implementing a digital, patient-centric system that tracks health indicators in real time, reduces healthcare providers' workload, and improves patient engagement, leading to better disease management and outcomes.

**Methods** The pilot uses the Longenesis Engage platform, a digital consent and engagement tool that monitors glycemia, blood pressure, and patient-reported outcomes in pregnant women with GDM. Algorithms analyze data, identify risks, and send real-time notifications to healthcare providers. Patients receive personalized recommendations and educational materials to manage their health.

**Patients** The target population includes pregnant women diagnosed with GDM (ICD-10 code O24.4) who have provided digital consent. The system is being implemented over 12 months in collaboration with Health Center 4 in Riga, with enrollment ongoing.

**Interventions** Real-time tracking of glycemic control, blood pressure, disease symptoms, and quality of life.

Automated data analysis to identify risks, allowing healthcare providers to focus on high-risk cases.

Tailored recommendations and educational materials using a flag system (red, yellow, green) to guide when to seek medical attention.

**Main Outcome Measures** Primary outcomes include glycemic control, patient engagement, waiting times, accessibility to care, and quality of life.

**Results** Preliminary data indicate improvements in patient engagement. Women reported increased confidence in managing their condition, and healthcare providers observed a reduced workload. Real-time data and risk identification enable providers to prioritize high-risk cases, enhancing care efficiency.

**Conclusions** This pilot demonstrates the potential of patient-centric digital systems to optimize GDM management. By reducing the workload of healthcare professionals and delivering personalized, real-time care, the system can enhance accessibility, improve outcomes, and increase efficiency.

## Obstetrics

## Enhancing maternal healthcare: utilization and barriers of Anganwadi services among pregnant and lactating women in rural India

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**Context** Maternal malnutrition and inadequate access to healthcare services are critical challenges in rural India. The Integrated Child Development Services (ICDS) program aims to provide nutritional and healthcare support to pregnant and lactating women through Anganwadi centres. Despite these efforts, service utilisation varies and is often hindered by systemic and individual barriers.

**Objectives** To assess the utilisation of Anganwadi services by pregnant and lactating women in Central India and identify factors contributing to non-utilization.

**Methods** A cross-sectional observational study was conducted at the Rural Health Training Centre, Bela, Nagpur, from November 2023 to January 2024. A total of 365 participants were selected using convenience sampling. Data were collected through face-to-face interviews using a pre-designed and validated questionnaire. Quantitative data were analysed using descriptive statistics and chi-squared tests.

**Patients** The study included 209 pregnant women (57%) and 156 lactating mothers (42%), all residing in rural areas. The mean age was 26.27 years (SD = 3.726), with most participants aged 20–30 years.

**Interventions** The study examined awareness and utilization of services such as supplementary nutrition, health education, and health checkups, with no direct interventions implemented.

**Main outcome measures** Key outcomes included service utilization rates, awareness levels, receipt of supplementary nutrition, and barriers to utilization.

**Results** Among participants, 83% visited Anganwadi centres, and 63% received supplementary nutrition. Awareness of services was high (91%) but lower for deworming (29%). Non-utilization was attributed to strikes (31.1%), registration issues (20%), and logistical challenges (8.9%). Significant associations were observed between utilization and socioeconomic factors, including education and occupation of husbands.

**Conclusions** While Anganwadi centres are vital for maternal and child healthcare, systemic barriers and awareness gaps persist. Targeted interventions addressing logistical issues, awareness, and community engagement are essential for equitable access.

## Obstetrics

# The Impact of Turkish Bath Habits on Pregnancy Outcomes: A Retrospective Analysis of 214 Pregnant Women

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**Context** The traditional Turkish bath (hammam) holds significant cultural value in society. In the Turkish baths discussed in our study, humidity levels typically range between 80-90%, and temperatures are generally between 40-50°C. However, the effects of hammam use on pregnancy complications and outcomes have not been adequately studied. This study retrospectively compares obstetric outcomes between pregnant women who used the hammam and those who did not.

**Objective** The traditional Turkish bath holds cultural significance, but its impact on pregnancy outcomes remains understudied. This study retrospectively compares obstetric outcomes between regular hammam users and non-users.

**Methods** This retrospective study analyzed 214 pregnant women divided into two groups: the non-hammam group with 122 patients who visited a Turkish bath three or fewer times during pregnancy, and the hammam group with 92 patients who attended at least weekly in all trimesters. Hammam sessions lasted 250–300 minutes.

**Patients** The participants had a mean age of 22.4 years ( $p < 0.05$ ), with no statistically significant difference between the groups in terms of age. Similarly, the mean parity was calculated as 5.12 ( $p < 0.05$ ), with no differences observed between the groups regarding parity or mode of delivery.

**Interventions** Only pregnant women who were regularly monitored throughout their pregnancy and had no history of high-risk pregnancies were included in the study.

**Main Outcome Measures** The obstetric outcomes evaluated in the study include abruptio placentae, preeclampsia-eclampsia, preterm birth, intrauterine growth restriction (IUGR), and major congenital anomalies.

**Results** The incidence of abruptio placentae was 3.27% in the Hammam(-) group (122 patients) and 8.69% in the Hammam(+) group (92 patients), showing statistical significance ( $p < 0.05$ ). Preterm birth rates were 12.29% vs. 26.08%, preeclampsia-eclampsia 4.09% vs. 9.78%, and IUGR 9.01% vs. 16.3%, all significantly higher in the Hammam(+) group ( $p < 0.05$ ). Major congenital anomalies were also more frequent in the Hammam(+) group (14.01% vs. 6.55%,  $p < 0.05$ ).

**Conclusions** This study suggests that the practice of using hammams may impact pregnancy outcomes. It is recommended that pregnant women with a traditional hammam habit be monitored more closely and provided with education when necessary.



## Obstetrics

## Exploring Digital mHealth Tools in Preconception Care for Individuals at Risk for Feto-Maternal Complications: An Integrative Review

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**Background:** Integrating mobile health (mHealth) tools into preconception care (PCC) for individuals at risk for feto-maternal complications (RfFMC) offers the potential of improving sexual and reproductive health and rights globally. mHealth tools provide tailored information, self-management tools, and real-time support, addressing unique challenges faced by high-risk individuals.

**Aim:** To identify the specific needs and expectations of both targeted clients and HCPs towards PCC mHealth tools designed for individuals at RfFMC. Through assessing barriers and assets, and users' attitudes and perceptions, it further aims at detecting the strengths and limitations inherent in their application within high-risk PCC.

**Methodology:** An integrative review of 15 empirical studies with mixed designs was conducted. Systematic searches in PubMed, CINAHL, and Web of Science, followed by quality assessment using the mixed-method appraisal tool, were employed. Data were analysed using the constant comparison method.

**Results:** A user-centric perspective on mHealth tools revealed the need for tailored features, user-friendly interfaces, culturally sensitive content, and social support. Strengths included positive health behaviour impact and accessibility, while challenges involved limited engagement and technical difficulties.

**Conclusion:** This review underscores the potential of user-centred mHealth tools in improving PCC for individuals at RfFMC. Identified needs align with predictors for self-efficacy, suggesting pathways for empowering health management through mHealth solutions. Addressing various factors is crucial for optimal effectiveness and global applicability.

## Obstetrics

# The Impact of Maternal Weight on Pregnancy Complications among Primiparous Women: A Retrospective Study from a Tertiary Care Center

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**Context:** In the last three decades, there has been a consistent and concerning rise in obesity rates, with the current estimate surpassing 1 billion individuals. This escalating trend poses significant health challenges, particularly during pregnancy, where obesity is identified as a notable risk factor for various pregnancy-related conditions, including an increased likelihood of caesarean sections (CS).

**Objective:** To determine if obesity is associated with pregnancy-related conditions and higher incidence of CS.

**Methods:** A retrospective analysis of primiparous women who had given birth at hospital of Lithuanian University of Health Sciences Kauno klinikos in 2011 - 2012 and 2021 - 2022 was conducted. The incidence of body mass index (BMI), mode of delivery, episiotomies, intrauterine growth retardation (IUGR), fetal macrosomia, gestational diabetes, gestational hypertension and preeclampsia was analysed.

**Patients:** A total of 5,470 primiparous women were included in the study.

**Interventions:** none.

**Main outcome measures:** prevalence of obesity, the overall CS rate, the CS rate among obese patients, the incidence of pregnancy-related conditions.

**Results:** Among 5,470 primiparas, 429 women (7,84 %, BMI > 30 kg/m<sup>2</sup>) were identified as obese. In 2011 – 2012 the rate of obesity among primiparous women was significantly lower – 4,59 % compared to 11,23 % in 2021 – 2022 . A total of 1,681 CS (30,73 %) were performed. In both analysed time periods the CS rate was statistically significantly higher among obese patients (45,30 % in 2011-2012 and 35,90 % in 2021-2022,  $p < 0,01$  and  $p = 0,015$  respectively). Episiotomies were more frequently required for non-obese than obese patients (37,89 % and 30,30 % respectively,  $p = 0,002$ ). Pregnancy associated hypertension was more prevalent among obese primiparas (31,70 % in obese vs 9,96 % in non-obese women,  $p < 0,001$ ) as well as gestational diabetes (48,5 % in obese vs 16,7 % in non-obese patients,  $p < 0,001$ ). There was no significant impact on IUGR, but fetal macrosomia was more frequent among obese patients (9,56 % in obese vs 4,36 % in non-obese women,  $p < 0,001$ ).

**Conclusions:** Our study revealed an increased incidence of obesity among primiparous women over the analysed decade. Obese patients exhibited a strong association with a higher CS rate, along with a heightened prevalence of pregnancy-related hypertension, gestational diabetes, and fetal macrosomia.

## Obstetrics

# Confined placental mosaicism and maternal mosaicism can be underlying biological causes of discordant results of Non – invasive procedure testing during screening of pregnancy for chromosomal abnormalities.

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**Background :** Confined placental mosaicism (CPM) is defined as the presence of two or more karyotypically different cell lines that are confined to the placenta and not present in the fetus.

**Objective :** to evaluate the performance of NIPT in screening of chromosomal abnormalities, to validate the false positive, false negative NIPT results or sonographic fetal abnormalities via invasive procedure testing like as amniocentesis or post abortion molecular genetic testing.

**Methods :** Retrospective study

**Study time :** From 2014 till June 2024.

**Sample study :** We enrolled 756 cases. 20 cases lost to follow up. We analyzed 736 cases.

28 out of 736 cases were subjected of either invasive diagnostic procedures such as Amniocentesis or post abortion molecular genetic testing (MGT) due to their positive NIPT results, false negative results combined with abnormal soft or severe sonographic findings. NIPT detected. 14 cases of 28 with trisomy 21, which are confirmed by amniocentesis (8 cases) and by post abortion molecular genetic testing MGT(6 cases) .

One case with fetal atrioventricular canal was detected as negative for trisomy 21 by NIPT , but mom gave birth a female child with trisomy 21. Three cases of Turner syndrome detected by NIPT, which were confirmed by amniocentesis (2 cases) and one by MGT. One case with trisomy 22 detected by NIPT and confirmed with amniocentesis confirmed chromosomal view – 22p13q12.3 duplicated. 5). One case with trisomy 16 detected by NIPT and confirmed by amniocentesis.

The false positive NIPT results of two cases with trisomy 13 respectively at gestational age 12 weeks and 11 weeks plus 3 days, were rejected by amniocentesis, and their moms gave birth two female healthy babies.

In 5 cases with male gender 46,XY detcted by NIPT were not confirmed neither sonographic examination nor amniocentesis. Both examination confirmed female gender with karyotype 46,XX.

One negative result was published by NIPT in one fetus with sonographic fetal abnormalities (bilateral coroid plexus cysts) but amniocentesis confirmed the presence of trisomy 18 .

**Conclusions:** The sensitivity and specificity of NIPT are very high but they can never be 100 % due to confined placental mosaicism – an inevitable biological phenomenon.

## Obstetrics

# Preeclampsia and Neonatal Outcomes in Albania: A Retrospective Analysis

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**Background:** Preeclampsia is a significant contributor to maternal and neonatal morbidity and mortality worldwide. In Albania, where access to advanced healthcare is inconsistent, understanding the repercussions of preeclampsia on neonatal outcomes is crucial for enhancing perinatal health services.

**Objectives:** This study aims to evaluate the neonatal outcomes associated with preeclampsia in Albania, identify risk factors contributing to adverse outcomes, and propose targeted interventions to optimize neonatal health.

**Methods:** A retrospective analysis was conducted on cases of preeclampsia recorded at Queen Geraldine University Hospital in Albania from January 2018 to December 2023. Data collected included maternal demographics, obstetric history, neonatal birthweight, gestational age at delivery, Apgar scores, and neonatal intensive care unit (NICU) admission rates. Statistical methods were used to examine the relationship between preeclampsia severity and neonatal outcomes.

**Results:** Among 500 cases of preeclampsia analyzed, 60% were associated with preterm delivery (<37 weeks gestation). Neonates born to mothers with severe preeclampsia had significantly lower birthweights (mean 1,850 g) and higher NICU admission rates (45%) compared to those with mild preeclampsia. Adverse outcomes, such as neonatal respiratory distress and infections, were more prevalent in cases of early-onset preeclampsia. Variations in healthcare access and delayed treatment were identified as contributors to poorer neonatal outcomes.

**Conclusions:** Preeclampsia significantly impacts neonatal health in Albania, with preterm birth and low birthweight as major challenges. Bridging healthcare disparities, strengthening prenatal services, and advancing early diagnosis and management of preeclampsia are vital to mitigating its impact on neonatal outcomes. Further research and investment in maternal-fetal health are essential for achieving better perinatal care.

**Keywords:** Preeclampsia, Neonatal outcomes, Albania, Maternal health, Preterm birth, Low birthweight

## Obstetrics

## Maternal mirror syndrome with fetal hydrops due to parvovirus infection

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Mirror syndrome, also referred to as Ballantyne's syndrome, pseudotoxemia, or triple edema, is a rare clinical condition whose pathophysiology remains incompletely understood. This syndrome, associated with the development of fetal hydrops, consistently involves maternal edema and is most commonly observed in cases of severe fetal hydrops, regardless of its origin. We present a clinical case in which Mirror syndrome developed due to parvovirus infection and fetal hydrops.

A patient, at 18 weeks of gestation, developed a parvovirus infection and underwent home-based treatment. At 22 weeks and 4 days of gestation, the patient presented to the hospital with fetal hydrops and severe anaemia, and a single episode of elevated blood pressure (190/122 mmHg). At 22 w. and 6 d. due to severe fetal anaemia and fetal hydrops, cordocentesis and intrauterine blood transfusion were performed. Fetalanemia necessitated a repeat cordocentesis and erythrocyte transfusion at 24 w. and 0 d. (fetal anaemia decreased, but there were signs of placentomegaly and polyhydramnios). The patient's condition had worsened, with signs of edema, proteinuria, HELLP syndrome and a diagnosis of placenta previa, prompting a category II emergency cesarean section. At 24 w. and 5 d. 578 g newborn Apgar 4-5-7 was born, transported to NICU and at the moment is 3 month of age. This case highlights the importance of recognizing and managing Mirror syndrome, particularly when it mimics conditions such as pre-eclampsia and HELLP syndrome, to mitigate risks of severe maternal and perinatal complications.

## Obstetrics

# UREAPLASMA UREALYTICUM AND MYCOPLASMA HOMINIS INFECTION AMONG PREGNANT WOMEN

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**Introduction:** Genital mycoplasmas, including *M. hominis*, and *U. urealyticum* contribute to some of the reproductive health pathologies and pose a significant public health problem associated with preterm birth, miscarriage, stillbirth and low birth weight..

**Objective:** The evaluation of the role of *Mycoplasma Hominis* and *Ureaplasma Urealyticum* in Reproductive Health.

**Methods:** This is a prospective study conducted at the Department of Obstetrics and Gynecology, University Hospital “Koço Gliozheni”, Tirana, Albania,

Time of the study is extended January 2019 to July 2024 .

**Study sample:** This study included 172 pregnant and non-pregnant women. Sociodemographic and clinical data of women participating in the study were collected through an individual file.

All the patients included in the study have been subjects of testing for *Mycoplasma hominis* and *Ureaplasma urealyticum*. The samples have been collected from the cervix, fornices and vaginal walls of pregnant and non pregnant women

**Main outcome:** . Mixed infection was found in 51 (26.7%) of women. The incidence of mixed infection was highest for MH + UU + (10.9%) followed by UU + (9.9%).

**Results:** *M. hominis* was found in 90 (52.3%) [95% CI 44.56 - 59.95] of total women while *U. urealyticum* in 119 (69.2%) [95% CI 61.72 - 76.0] of them. Mycoplasmas have almost the same distribution according to age group, pregnancy status, parity and number of abortions. No significant difference was found in the distribution of MH ( $p = 0.8$ ) and UU ( $p = 0.2$ ) according to the number of abortions. Mixed infection was found in 51 (26.7%) of women. The incidence of mixed infection was highest for MH + UU + (10.9%) followed by UU + (9.9%). In the multivariate logistic regression model significant and independent risk factors of preterm birth resulted: *U. Urealyticum* ( $p < 0.01$ ), Gestational age ( $p = 0.03$ ) Mixed mycoplasma ( $p < 0.001$ ). (92.2%) of women with *M. hominis* and (94.1%) of women with *U. Urealyticum* were treated with antibiotics.

**Conclusion:** Organization of screening programs for infection by mycoplasmas to prevent premature birth and reduce the cost of its treatment. To maintain a safe pregnancy, it is important to identify the isolates and use the appropriate antibiotics immediately.

**Keywords:** *M. Hominis*, *U. Urealiticum*, incidence, pregnancy, reproductive health.

## Obstetrics

## Intestinal microbiota differs in gestational diabetes women.

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**Objective:** Gestational diabetes (GD) is the most common metabolic diseases in pregnancy. The mechanisms of GD development are partly known. The maternal microbiota is involved in several metabolic functions; however, the mechanism of microbiome influence on the development of GD is not fully understood.

Aim of this study was to compare the differences in compositions of fecal bacterial microbiota between pregnancy patients with gestational diabetes and normal pregnancy.

**Methods:** This was a prospective cohort study. The study included 44 women -22 patients with GD and 22 controls with normal pregnancy. Our end-point was the analysis of the differences in compositions of o fecal microbiota between the groups. The analysis of microbiota was conducted using next-generation sequencing.

**Results:** Both in GD patients and in the control group, the central representation of the intestinal microbiota is the same phyla Firmicutes, Bacteroidetes, and Actinobacteria. In the GD group, the number of Firmicutes, Bacteroidetes increases, and the number of Actinobacteria and Verrucomicrobiota decreases compared to the control group. The most numerous species in the patients with GD were *Faecalibacterium Prausnitzii*, *Bacteroides Mediterraneensis*, and *Alistipes Onderdonkii*.

**Conclusion:** This study suggests that GD may influence changes in the intestinal microbiota. The fecal microbiota differs significantly among patients with gestational diabetes and normal pregnancy.

## Obstetrics

## Gestational Diabetes Mellitus (GDM) Care: Uncovering Gaps in Screening and Postpartum Follow-Up

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**Context:** GDM is the leading cause of hyperglycemia in pregnancy, contributing to prenatal and postnatal complications. Lifestyle factors, including increased rates of adiposity and advanced maternal age, have increased GDM prevalence. As GDM raises the mother's risk of developing type 2 diabetes mellitus (T2DM) later in life, effective management and adherence to postpartum care are crucial to reduce long-term healthcare burdens.

**Objective:** To evaluate the quality of care for GDM patients managed by one endocrinologist in two outpatient clinics and develop a patient data registration form to enhance care quality.

**Methods:** This retrospective study included 64 patients diagnosed with GDM. Data from medical records included demographics, gestational week at screening, endocrinology referral timing, vitamin D levels, HbA1c, lipid profile, and postpartum follow-up data.

**Patients:** The study included 64 patients diagnosed with GDM between January 2023 and July 2024, excluding those with pre-existing diabetes mellitus.

**Interventions:** No interventions were performed on the diagnostic or therapeutic processes.

**Main Outcome Measures:** Key indicators of care quality included GDM screening timelines, endocrinologist referral delays, laboratory monitoring compliance, postpartum follow-up rates.

**Results:** The mean patient age was 33 years (SD 6.7). The mean gestational age at GDM screening was 24.7 weeks (SD 2.5), with 79% of patients screened within the recommended timeframe. The average time to the first endocrinologist visit was 2.1 weeks (SD 1.7), and 83% of patients attended at least two endocrinologist visits during pregnancy. Vitamin D deficiency was identified in 14% of patients, insufficiency was noted in 12%. Anaemia was present in 22% of patients. Postpartum follow-up, including OGTT, was completed by 32% of patients, with 17% demonstrating elevated results.

**Conclusions:** Postpartum follow-up and repeat OGTT rates were notably low, revealing significant gaps in care. Vitamin D deficiency and anaemia, both associated with increased risks of preeclampsia and preterm delivery, were observed. A structured data registration system is essential for improving clinical data collection, laboratory testing adherence, and care quality. Collaboration among gynecologists, GPs, and endocrinologists is vital for educating patients on postpartum T2DM risks and ensuring proper follow-up care.



Endometriosis, adenomiosis, fibroma

## Mental Health in Adversity: Psychological challenges in women with endometriosis during the COVID-19 pandemic

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**Introduction:** Endometriosis is characterized by the growth of endometrium-like tissue outside the uterus, leading to chronic pain, infertility, and decreased well-being. The COVID-19 pandemic exacerbated the psychological challenges faced by women with endometriosis due to factors such as isolation and reduced social support.

**Objective:** We explored how these factors, along with resilience, impact the mental health of women with endometriosis.

**Methods:** We used the Patient Health Questionnaire for Depression (PHQ-2) and the Generalized Anxiety Disorder Scale (GAD-2) to assess mental health, combined as the PHQ-4. Resilience was measured using the Brief Resilience Score (BRS).

**Results:** The prevalence of depression and anxiety was high, with more than 40% of participants scoring  $\geq 3$  on both the PHQ-2 and GAD-2 and over 20% scoring  $\geq 5$ . High resilience was found to be a strong independent protective factor against adverse psychological outcomes, with odds ratios (OR) of 0.295 for generalized anxiety disorder ( $GAD-2 \geq 3$ ,  $p < 0.001$ ) and 0.467 for major depression ( $PHQ-2 \geq 3$ ,  $p < 0.001$ ). Pain-induced disability emerged as an independent risk factor for developing major depression and anxiety. Demographic factors such as age, stable relationships, and educational level were potential protective factors. Pandemic-specific factors, including reduced social networks and periods of social distancing, were associated with increased psychological distress. A high educational level (OR 2.715, 95% CI 1.472–5.007,  $p = 0.001$ ) supported higher resilience, while a decrease in perceived social support (OR 0.541, 95% CI 0.307–0.952,  $p = 0.033$ ) was a significant risk factor for low resilience.

**Conclusions:** Pain-induced disability and pandemic-specific factors significantly impacted the mental health of women with endometriosis. High resilience was identified as a protective parameter, emphasizing the need for resilience-building interventions. The results suggest that healthcare practitioners should focus on strategies to enhance resilience and reduce psychological impacts on patients with endometriosis, especially during challenging times like the COVID-19 pandemic. Understanding the interplay between physical health, psychological well-being, and external stressors is crucial for supporting women with chronic pain conditions.

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Endometriosis, adenomiosis, fibroma

## Management of Bronchial endometriosis

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Study Objective: Management of Bronchial endometriosis

**Design:** case-report

**Setting:** Hospital

**Patients or Participants:** 27year,female,Para 3,presented with several episodes of cyclical cataminal haemoptysis.Had a prior uncomplicated spontaneous normal vaginal delivery 3 months previously,with a routine postnatal course.Despite having no pre-existing respiratory problems,she developed severe new onset pulmonary bleeding post-partum,coinciding with menstruation.Was assessed by the respiratory physicians,as each episode accompanied with significant dyspnoea. PA Chest radiography demonstrated an opacity and regular markings in the right lower lung lobe.All haematological,biochemical and immunological investigations were normal. Gynaecology consultation was then sought.

**Interventions:** Commence the patient on a course of triptorelin-pamoate 11.25mg injection for 3 months to achieve menstrual suppression.No episodes of cataminal haemoptysis occurred in the 3 months followed.For long term management with no personal contraindications for combined oral contraceptive pill,commenced on Yasmin (0.03mg-Ethinylestradiol/3mg-Drospirenone) for three months continuously.Again no episodes of haemoptysis, however did reported ongoing light headaches.Was switched Microlite(100/20mcq levonorgestrel/ethinylestradiol) for 6 months,continously.No adverse side effects for three months, but at this point had a small breakthrough bleed, together with some mild chest pain, but no haemoptysis. Since then she has been maintaing, taking pill free period every six months for one week, without complaints or further episodes.

**Measurements and Main Results:** Bronchial endometriosis is a rare condition of non-pelvic endometriosis. The pathophysiology of cyclical haemoptysis remains unclear.Diagnosis of bronchial endometriosis is always grounded initially on clinical suspicion. Majority of patients present with a combination of cataminal haemoptysis, shortness of breath, cough, and pleurisy.

Investigations including chest radiography and bronchoscopy can also give help to support the clinical suspicion for a diagnosis of bronchial endometriosis. However, in the majority of cases, diagnosis might be made by video-assisted thoracoscopic surgery (VATS).

**Conclusion:** We present the use of the combined oral contraceptive pill for symptomatic treatment of bronchial endometriosis, as an effective option for medical management.

Endometriosis, adenomiosis, fibroma

## Extrapelvic endometriosis. Minimally invasive management of inguinal endometriosis-video presentation

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**INTRODUCTION** Endometriosis is a complex condition characterized by the presence of endometrial glands and stroma outside the endometrial cavity. While the pelvic region is the primary site of endometriosis, it can also manifest in less common locations such as bladder, diaphragm, umbilicus and groin. Deeply infiltrative endometriosis involving the inguinal canal represents a rare occurrence, but poses significant challenges in both diagnosis and treatment. Due to the intricate anatomy of this region, which includes vital vasculonervous structures, managing inguinal canal endometriosis requires a comprehensive surgical approach supported by a multidisciplinary team.

**METHODS** The purpose of this video presentation is to present three cases of patients with deep infiltrating endometriosis involving the inguinal region who benefited from tailored minimally invasive surgeries.

**RESULTS** The three patients initially presented with persistent pelvic pain radiating to the hip, dyspareunia, and dysmenorrhea. During the physical examination, a sensitive mass in the inguinal region was found in two of the three cases. Through minimally invasive surgery, the endometriotic lesions were entirely removed in each case. In two of the cases, the round ligament was totally removed. In two of the cases, we tailored the surgery technique by using alloplastic procedures in order to cover the hernia gate. During follow up: two and a half years after surgery, we experienced no recurrence.

**CONCLUSION** Inguinal endometriosis treatment requires a comprehensive approach headed by a multidisciplinary team that can effectively handle all possible outcomes. Tailored management plans that consider both the extent of disease and patient specific factors are essential for improving quality of life in these challenging cases.

Endometriosis, adenomiosis, fibroma

## Laser treatment of endometrioma: Comparison two different sources of energy to achieve haemostasis after laparoscopic surgery of endometrioma / a diode laser (DWLS) vs bipolar electrocoagulation.

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**Background.** the aim was to investigate the impact of laparoscopic endometrioma cystectomy and the use of diode laser 980 nm for hemostasis on ovarian reserve in patients with endometrioma(s) by measuring serum AMH levels and to compare these results with our previously completed study in which, after endometrioma cystectomy, bipolar coagulation was used for hemostasis.

**Methods.** Prospective study. Until now study included 31 women in a diode laser group and 33 in a bipolar coagulation group. Before surgery as well as one and 6 months after cystectomy, serum level of AMH was assessed. Diagnosis of endometrioma was set on clinical and ultrasound examination and was confirmed histopathologic. Results were analyzed by standard software SPSS.

**Results.** Serum AMH levels significantly decreased after endometrioma cystectomy in both group: in patients with diode laser (n=31) and in bipolar group (n=33). In diode laser group, serum AMH levels decreased significantly ( $3,91 \pm 2,54$  before surgery and  $2,89 \pm 1,92$  one month and  $2,94 \pm 2,34$  six months after surgery, mean  $\pm$  standard deviation). Overall p-value\*:  $p = 0.000394$  ( $p^* = \text{Friedman rank sum test}$ ): p value\*\*: 1month vs baseline  $p < 0.001$ , 6 months vs baseline  $p < 0.001$ , one month vs. 6 months p. value: not significant ( $p^{**} = \text{Wilcoxon's signed rank test}$ ). Percentage change in the serum AMH levels in diode laser group: 1month vs baseline  $-21.04 \pm 31.55\%$ ; and 6 months vs baseline  $-25,78 \pm 31,55\%$ . In bipolar endometrioma cystectomy group, serum AMH significantly decreased ( $3.06 \pm 1,76$  before surgery and  $1,83 \pm 1,12$  one month and  $1,35 \pm 0,98$  six months after surgery, mean  $\pm$  standard deviation). Overall p-value\*:  $p < 0.001$  ( $p^* = \text{Friedman rank sum test}$ ): p value\*\*: 1month vs baseline  $p < 0.001$ , 6 months vs baseline  $p < 0.001$ , one month vs. 6 months  $p = 0.001$ . ( $p^{**} = \text{Wilcoxon's signed rank test}$ ). Percentage change in the serum AMH levels in bipolar group: 1month vs baseline  $-54.14 \pm 27.7 \%$ ; and 6 months vs baseline  $-51.23 \pm 37.7\%$ .

**Conclusion.** Laparoscopic cystectomy leads to a significant decrease in ovarian reserve. The question is how to treat patients who require surgical management and who wants to preserve their fertility, especially patients with lower baseline serum AMH levels, older patients and patients with bilateral endometriomas. Preservation of ovarian vascularization is critical to preserving ovarian reserve and we can probably influence on this by changing the source of energy for achieving haemostasis. Based on the results of our research, the use of a diode laser (DWLS) to achieve haemostasis causes less damage to the ovarian reserve. Further studies are needed.

Endometriosis, adenomiosis, fibroma

## Linzagolix effectively reduces endometriosis-associated pain versus placebo: Results from the phase 3 EDELWEISS-3 trial

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**INTRODUCTION** EDELWEISS-3 is a randomised, double-blind, placebo-controlled phase 3 study evaluating the efficacy and safety of Linzagolix (LGX), an oral gonadotropin-releasing hormone (GnRH) antagonist currently approved for the treatment of uterine fibroid patients with moderate to severe symptoms. In this study, we evaluated whether LGX could also be an effective treatment modality for the management of patients with moderate to severe endometriosis-associated pain (EAP).

**MATERIALS AND METHODS** A total of 484 women with moderate-to-severe EAP were randomized into three study groups: 75 mg LGX monotherapy, 200 mg LGX with hormonal add-back therapy (ABT; 1mg estradiol and 0.5mg norethindrone acetate), or placebo over a 6-months period. The co-primary endpoints were clinically meaningful reductions in dysmenorrhea (DYS) and non-menstrual pelvic pain (NMPP) at 3 months, assessed using a 4-point Verbal Rating Scale (VRS). Responders were defined as participants achieving clinically meaningful reductions in pain alongside stable or reduced use of analgesics. The predefined thresholds for clinically meaningful reductions on the VRS were -1.10 for DYS and -0.80 for NMPP.

**RESULTS** At 3 months, the 200 mg LGX with ABT group demonstrated significant reductions in DYS (72.9% responders,  $p<0.001$ ) and NMPP (47.3% responders,  $p=0.007$ ) with stable or reduced analgesic use versus placebo. The 75 mg LGX group also showed significant improvement in DYS (44.0% responders,  $p<0.001$ ), though the reduction in NMPP was not statistically significant.

By 6 months, the 200 mg LGX with ABT group sustained clinically significant improvements in both DYS and NMPP, with mean changes from baseline of -1.83 (95% CI: -1.96 to -1.70;  $p<0.001$ ) and -0.92 (95% CI: -1.03 to -0.82;  $p=0.002$ ), respectively. In contrast, the placebo group showed mean changes of -0.66 (95% CI: -0.79 to -0.53) for DYS and -0.66 (95% CI: -0.77 to -0.56) for NMPP. The 75 mg LGX group also showed statistically significant improvements compared to placebo in DYS ( $p=0.036$ ) and NMPP ( $p=0.003$ ) at 6 months.

**CONCLUSION** The EDELWEISS-3 trial confirms the efficacy of Linzagolix in reducing endometriosis-associated pain. The 200 mg dose with ABT in particular demonstrated significant and sustained improvements in both DYS and NMPP at 3 and 6 months.

Endometriosis, adenomyosis, fibroma

## Linzagolix rapidly reduces Heavy Menstrual Bleeding in patients with uterine fibroids: A pooled analysis of the PRIMROSE 1 and 2 trials

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**INTRODUCTION** PRIMROSE 1 and PRIMROSE 2 were two near-identical, randomized placebo-controlled phase 3 trials that investigated the efficacy and safety of linzagolix compared with placebo for the treatment of symptomatic uterine fibroids. Using a pooled PRIMROSE sample, this analysis sought to assess the rapidity of onset of HMB reduction in patients treated with Linzagolix.

**MATERIALS AND METHODS** Participants (n=1,012) were randomized equally to four treatment arms: linzagolix 100mg and 200mg, with and without concomitant add-back therapy [ABT; 1mg Estradiol / 0.5mg norethindrone acetate]) or a placebo arm. Clinically significant HMB reduction was defined as MBL  $\leq 80$ ml and  $\geq 50\%$  reduction from baseline. Kaplan-Meier plots adjusted for confounding by race and study were used to compare the cumulative incidence of achieving and maintaining clinically significant HMB reduction through week 24 between the study arms.

**RESULTS** Clinically significant HMB reduction was notably faster in the Linzagolix treatment arms compared to placebo, with a median time of  $<4$  weeks for most linzagolix doses (except 100mg alone). Linzagolix 200mg with and without ABT had the fastest onset of HMB reduction with a median time to effect of only 3 days. The cumulative incidence of achieving clinically significant HMB reduction by week 4 and maintaining it to week 24 was also significantly higher for the linzagolix treatment arms (68.1%, 58.4%, 58.6%, and 23.2% for linzagolix 200mg with ABT, 200mg without ABT, 100mg with ABT, and 100mg without ABT, respectively) compared to the placebo arm (7.8%).

**CONCLUSION** Linzagolix was associated with a rapid reduction in clinically significant HMB compared to placebo, offering a novel approach to the medical treatment of symptomatic uterine fibroids where a rapid and sustained control of HMB symptoms is required.

Endometriosis, adenomiosis, fibroma

## EDELWEISS-6: A long-term extension study of linzagolix for the management of endometriosis-associated pain

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**INTRODUCTION** Linzagolix (LGX), a gonadotropin-releasing hormone (GnRH) antagonist, is currently under development for the management of patients with pain associated with Endometriosis. In this extension study (EDELWEISS-6), we evaluated the long-term effects of LGX in women experiencing moderate to severe endometriosis-associated pain (EAP) who had completed the Phase 3, double-blind, placebo-controlled EDELWEISS-3 trial.

**MATERIALS AND METHODS** Upon completing the six months in the EDELWEISS-3 trial, participants were invited to continue treatment for an additional six months with either LGX 75 mg alone or 200 mg with hormonal add-back therapy (ABT; 1 mg estradiol/0.5 mg norethindrone acetate) for their EAP. The co-primary endpoints were a clinically meaningful reduction in dysmenorrhea (DYS) and non-menstrual pelvic pain (NMPP) up to month 12. Key secondary endpoints assessed sustained efficacy in dyschezia, overall pelvic pain (OPP), and pain interference with daily activities up to 12-months.

**RESULTS** Of the 484 women who completed the EDELWEISS-3 trial, 353 enrolled in the EDELWEISS-6 extension study and were included in the analysis. At the outset of this extension study (at month 6), 84.7% of women in the LGX 200 mg with ABT group and 49.6% in the LGX 75 mg group achieved a clinically meaningful reduction in DYS. By month 12, these response rates increased to 91% and 55.9%, respectively. For NMPP, response rates improved from 61% and 54.0% at month 6 to 67.6% and 59.5% by month 12 in the 200 mg + ABT and 75 mg groups, respectively. Additional improvements were observed in dyschezia, OPP, and pain interference with daily activities from month 6 to month 12 in both treatment groups. Hot flushes (3.4%–6.9%) were the most frequently reported adverse event, and changes in bone mineral density from baseline were less than 2% at month 12 across all groups.

**CONCLUSION** The reductions in DYS and NMPP observed at month 6 were further enhanced by month 12 in both the linzagolix 75 mg and 200 mg with ABT groups. Similarly, efficacy in key secondary endpoints continued to improve over the 12-month treatment period. Linzagolix was well-tolerated throughout the EDELWEISS-3 and -6 trials, supporting its potential as a long-term treatment option for women with moderate to severe EAP.

Endometriosis, adenomiosis, fibroma

## Linzagolix for the treatment of uterine fibroids: Efficacy and safety results at one-year and up to 6 months following cessation of treatment

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**INTRODUCTION** Linzagolix is a GnRH antagonist that is currently licensed for the management of women with symptomatic uterine fibroids, the approval of which was based on the PRIMROSE 1 and 2 pivotal trials. In this study, we evaluated the long-term outcomes of linzagolix at 52-weeks, and up to 6-months following cessation of treatment.

**MATERIALS AND METHODS** PRIMROSE 1 and 2 were two near-identical, randomised, double-blind, placebo-controlled, phase 3 trials of linzagolix versus placebo, conducted over a 52-week treatment period. Eligible women with uterine fibroid-associated heavy menstrual bleeding (HMB) were randomly assigned to one of 5 treatment arms: Placebo, 100mg linzagolix, 100mg linzagolix with hormonal add-back therapy [ABT; 1mg estradiol and 0.5mg norethindrone acetate], 200mg linzagolix, or 200mg linzagolix with ABT. Patients were then followed-up for a further 6-months following therapy cessation. The responder rate for HMB reduction (defined as menstrual blood loss  $\leq 80\text{mL}$  or  $\geq 50\%$  from baseline) was evaluated at week-52, and following cessation of treatment up to week-64. BMD assessments were also evaluated at week-52 and following treatment cessation at week-76.

**RESULTS** Reductions in HMB observed at week-24 were largely maintained through week-52 in both trials. In PRIMROSE 1, the percentage of women with reduced HMB at weeks -24 & 52 was 56.4% and 57.4% for 100mg linzagolix, 66.4% and 79.7% for linzagolix 100mg+ABT, 71.4% and 66.7% for 200mg linzagolix/200mg linzagolix+ABT, 75.5% and 87.9% for 200mg+ABT, and 35.0% and 41.9% for placebo groups, respectively. Among patients who were amenorrhoeic at week-52, 87% reported bleeding resumption by week-64. Similar trends were seen in PRIMROSE 2, where reduced HMB was noted in up to 91.6% of patients in the linzagolix 200mg+ABT group. For amenorrhoeic patients at week-52, 89.5% reported resumption of menstrual bleeding within 12-weeks of treatment cessation. The most common adverse event was hot flushes, which normalized in both trials by week-64. Plateauing of BMD loss was noted between weeks-24 and 52, with improvements seen in all treatment groups following cessation of treatment at week-76.

**CONCLUSION** One-year data from the PRIMROSE trials confirmed linzagolix's efficacy observed at 24-weeks. The relatively fast recurrence of uterine fibroid-associated symptoms after cessation of therapy is an argument in favour of long-term continuation of treatment.



Endometriosis, adenomyosis, fibroma

## ADENOMYOSIS: Uterine volume, bleeding patterns, and contraceptive outcomes in users of the levonorgestrel-releasing intrauterine system: a real-life cohort study with a five-year follow-up.

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**Context:** The effects of levonorgestrel-releasing intrauterine system (LNG-IUS) for treatment of heavy menstrual bleeding (HMB) is well known; however, there is a paucity of data for the long follow-up period of adenomyosis . **Objective:** The aim of our study was to evaluate the effects of the LNG-IUS on uterine volume, bleeding patterns, and LNG-IUS-related outcomes among women using the device to treat abnormal uterine bleeding caused by adenomyosis and HMB (without structural cause), or contraception.

**Methods:** This was a 5-year prospective cohort study with LNG-IUS users. Exclusion criteria: women with menorrhagia who had an endometrial echo  $\geq 8$  mm and/or an increased ultrasonographic echogenicity (endometrial acoustic reflection enhancement) underwent an endometrial biopsy (Novak curette) before LNG-IUS insertion; those with atypical hyperplasia or cancer were eliminated. Women with typical hyperplasia had the LNG-IUS inserted.

We selected 103 women, who were allocated to three groups:

1. Contraception Group: 37 women seeking long-acting reversible contraception; wish granted
2. Heavy Menstrual Bleeding Group (HMB group): 34 women who presented with AUB, with no apparent structural cause identifiable through physical examination and ultrasonography.
3. Adenomyosis Group: 32 women with clinical (AUB and/or dysmenorrhea) and ultrasonographic diagnoses of adenomyosis.

The visits for clinical and ultrasound evaluations were made at baseline and at 3, 6, 12, 24, 36, 48, and 60 months postinsertion.

**Results:** Along the 60 months of follow-up, uterine volume slightly decreased in the groups of HMB and adenomyosis, but not in the contraception group. Bleeding patterns were statistically similar across groups along the 60 months of follow-up. However, there seemed to be higher rates of amenorrhea in the contraception and HMB groups. In this cohort, we observed high continuation rates among LNG-IUS users. The uterine volume ( $\geq 200\text{-cm}^3$ ) was the main predictor of hysterectomy or IUS expulsion in the adenomyosis group. **Conclusion:** The LNG-IUS may control uterine menstrual bleeding as well as uterine volume in adenomyosis and HMB. An initial uterine volume smaller than  $200\text{ cm}^3$  is an important predictor of adherence to treatment and better outcomes.

**Keywords:** Levonorgestrel-releasing intrauterine system; Abnormal uterine bleeding; Heavy menstrual bleeding (HMB); Adenomyosis; Contraception.

## Menopause

## Qualitative assessment of the impact of VMS on the lives of women with vasomotor symptoms associated with menopause who are not suitable candidates for hormone therapy

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**Context:** Hormone therapy (HT) treats vasomotor symptoms (VMS) associated with menopause but is not suitable for everyone with VMS.

**Objective:** Gather insights on VMS burden, prior treatment use and satisfaction, and treatment barriers among women for whom HT is unsuitable.

**Methods:** PERCEIVE was a qualitative study with 60-min phone interviews of women exiting a phase 3b randomized, double-blind, placebo-controlled trial of fezolinetant (DAYLIGHT; NCT05033886, EudraCT 2021-001685-38) at wk 24–27. Interviewers used a standardized guide to open-ended questions about VMS experiences occurring before DAYLIGHT.

**Patients:** PERCEIVE participants completed DAYLIGHT, which enrolled menopausal women aged 40–65 y with  $\geq 7$  moderate to severe VMS per day who were seeking relief but had contraindications/precautions to HT, prior HT discontinuation, or lack of interest in HT.

**Main Outcome Measures:** Menopause symptoms, VMS impacts, prior treatment use and satisfaction, and treatment barriers

**Results:** Thirty-two participants enrolled in PERCEIVE (Canada: n=14; UK: n=10; Spain: n=8); 78% were employed. Mean (standard deviation [SD]) age was 57 (4.8) y; mean (SD) age at hot flash onset was 48 (4.5) y. The most mentioned menopausal symptoms were hot flashes (100%), perspiration (separate from night sweats; includes daytime perspiration; 81%), night sweats (44%), weight gain (38%), vaginal dryness (34%), irritability (34%), flushed (red) appearance (28%), fatigue (28%), depression (19%), anxiety (19%), and mood swings (19%). Most participants had difficulty sleeping (94%), tiredness due to sleep interruptions (75%), work impairment (75%), emotionality (56%), need to change clothes (56%), and poor sleep quality (53%) due to VMS. Prior VMS treatments included natural remedies (53%), HT (31%), acupuncture (9%), over-the-counter agents (9%), antidepressants (6%), vaginal ring (3%), and psychological therapy (3%); 25% had never treated their VMS. Satisfaction with HT was rated 3.7 (mean; 1=very dissatisfied to 5=very satisfied); natural remedies and antidepressants were each rated 2.0. Barriers to HT use were side effects, ineligibility, and cost; barriers to other products were cost, ineffectiveness, menopause stigma, lack of support from healthcare providers, and lack of availability.

**Conclusions:** Menopausal women for whom HT was unsuitable reported that VMS had a substantial negative impact on daily life, particularly sleep, and often sought alternative, nonhormonal treatment.

## Menopause

# Associations between Vasomotor Symptoms, Sleep Disturbances, and Frequent Mood Changes in Menopausal Women: Analysis of Data from the Study of Women's Health Across the Nation

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**Context:** Vasomotor symptoms (VMS), sleep disturbances, and mood changes are common in menopausal women, and can co-occur or appear independently.

**Objective:** To determine the associations between VMS, sleep disturbances, and frequent mood changes in women from 5 years before their final menstrual period (FMP) to 5 years after.

**Methods:** We used data from the baseline and first 10 annual follow-up visits (1999–2008) of the Study of Women's Health Across the Nation (SWAN) from the United States (US). The visit closest to a woman's FMP was re-assigned as visit 0, and visits 5 years either side were renamed (i.e. -5 FMP to +5 FMP). Generalized additive mixed models were fitted to account for non-linearity and multiple visits per patient.

**Patients:** 2066 SWAN participants with a record of reaching natural menopause; mean age at FMP 0 was 51.2 years (SD±2.6).

**Main Outcome Measure(s):** Multivariable adjusted odds ratios (ORs) with 95% confidence intervals (CIs) for the likelihood of experiencing the following, as individual symptoms, over time: i) VMS (on ≥1–5 days in the past 2 weeks), ii) sleep disturbances (waking several times/night on ≥1–2 nights/week in the past 2 weeks), and iii) frequent mood changes (on ≥1–5 days in the past 2 weeks).

**Results:** After adjusting for confounders, including socio-demographics, anxiety, depression, smoking, body mass index, and use of hormone therapy, women with VMS had more than double the odds of experiencing sleep disturbances (OR 2.16, 95% CI: 1.92–2.43) and 50% increased odds of experiencing frequent mood changes (OR 1.53, 95% CI: 1.35–1.73) vs. women without VMS. Women with sleep disturbances had more than double the odds of experiencing VMS (OR 2.14, 95% CI: 1.91–2.40) and 14% increased odds of experiencing frequent mood changes (OR 1.14, 95% CI: 1.00–1.29) vs. women without sleep disturbances. Women with frequent mood changes had approximately 60% increased odds of experiencing VMS (OR 1.59, 95% CI: 1.41–1.79) vs. women without frequent mood changes, but there was no evidence that these two groups of women differed in their likelihood of experiencing sleep disturbances (OR 1.11, 95% CI: 0.98–1.27).

**Conclusions:** Our findings indicate noticeable relationships between VMS, sleep disturbances, and frequent mood changes in menopausal women. This underscores the importance of monitoring and managing these often-co-occurring symptoms collectively to improve the well-being of women during the menopausal transition and beyond.

## Menopause

# How the gynecologist is involved with the prevention of the disease coming in perimenopausal and menopausal women

Marié-Scemama Lydia (FR)

Taking care of women over 40. The role of teamwork by the GP and/or other specialists (rheumatologist, cardiologist, neurologist..) and the gynecologist.

The average women life expectancy in our European region is around 86 years.

It would be better to help our patients live in good health.

As we know, CVD is the first cause of female mortality.

In 2024 the principal challenge is to reduce mortality rates through preventive measures.

Sometimes, because access to specialists needs a referral from a GP, in many countries some women never see a cardiologist but are used to visiting a gynecologist for questions of female health (i.e., contraception, perimenopause, menopause, cancer prevention)

These visits may occur several times a year.

So, the gynecologist often plays a cross-over role, not only taking care of specific gynecological problems but also questions relating to the general health of the patient and particularly CVD.

In one sense, we can see that the gynecologist becomes the woman's GP so it is essential that they not limit themselves to strictly gynecological questions.

They should always take a comprehensive history of the patient which includes personal circumstances, reproductive history and health issues in the wider family.

It is also essential to educate patients regarding the role of physical exercise, sleep, diet and eliminating tobacco, in maintaining good health and preventing CVD.

In addition, it is essential to insist on the role of their gynecological and obstetrical history (PCOS, Endometriosis, Pre-eclampsia, Toxemia, Gestational diabetes)

Even if the signs for alarm regarding coronary artery disease are usually the same in males and females, sometimes women complain of digestive pain or anxiety which can lead to a misdiagnosis of irritable bowel syndrome or stress. So instead of being treated as an emergency, care is delayed.

The problem is the same with the prevention or the early diagnosis of pathologies related with 45-50 years women

In this presentation we will emphasize the importance of the gynecologist working hand-in-hand with the cardiologist, the GP, the nephrologist and the rheumatologist and other specialists .

## Menopause

## Clinical meaningful evidence to Monitor and optimize transdermal MHT

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**Context** - Current guidelines on Menopausal Hormone Therapy (MHT), including NICE updated in 2024 recommend tailoring the information about benefits and risks to the person's age, individual circumstances and potential risk factors, and discussing combined versus oestrogen-only HRT, transdermal versus oral HRT, types of oestrogen and progestogen, sequential versus continuous combined HRT, dose and duration. Treatment should be individualized using the best available evidence to maximize benefits and minimize risks (NAMS 2022).

**Major Objective**-Comparison of estradiol exposure, safety and efficacy of available transdermal MHT in symptomatic menopausal women in function of the daily doses.

**Methods**-Randomized, dose-ranging, placebo- or active-control, double-blind study.

**Patient(s)**-361 patients in the safety analysis, 351 in the efficacy analysis.

**Interventions**-One of three dosages of Estrogel® Gel (0.625g, 1.25g and 2.5 g gel) containing 0.06% estradiol was applied daily and the Climara® Patch (0.05 mg/d) was changed weekly for a period of three months.

**Main Outcome Measures**-Postmenopausal women with a minimum of 7 moderate-to-severe hot flushes per day or at least 60 weekly were evaluated on serum concentration-effect relationship, effectiveness, tolerance and compliance.

**Result(s)**-Mean change decrease in frequency and improvement in severity of all hot flushes from baseline was similar between the open-label patch and 2.5 g Estrogel® groups throughout the study. Results show significant dose response ( $p = 0.006$ ) and steady state was achieved after three days with the gel.

Median serum estradiol levels from the patients for daily doses of gel applied during 12 weeks were dose-proportional comparable from patients receiving the Climara® patch. Estrogel® for 1.25 g and 2.5 g doses were shown to be therapeutically effective, and comparable from the patients receiving the patch.

Safety of Estrogel® was demonstrated. Incidence of adverse events in the skin was higher in the Climara® Patch compared with all Estrogel groups (23.0% versus 1.1%). Compliance was fairly comparable, slightly better in the higher Estrogel® dose group.

**Conclusions** - The results showed that 2.5g Estrogel® Gel dose is the most effective standard treatment dose. Better and quicker therapeutically meaningful efficacy was obtained with the 2.5g dose than the 0.625g or the 1.25g dose, with the possibility to individualize the daily doses of the estradiol gel and optimizing the responders rate.

## Menopause

## Estetrol (E4) Provides Complete Relief from Vasomotor Symptoms in One-Third of Participants in the E4COMFORT I Phase 3 Clinical Trial

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**Context:** Estetrol (E4) is a promising candidate for the treatment of the full spectrum of menopausal symptoms. Its efficacy and safety were confirmed in two pivotal trials conducted in Europe/Russia and North America/Canada. The 50% and 75% vasomotor symptoms (VMS) responder rates in these studies were high (60-75% for E4 15 mg and 82-87% for E4 20 mg) and comparable to current hormonal treatments available.

**Objective:** To assess complete recovery from VMS among postmenopausal women treated with E4.

**Methods:** Randomized, placebo-controlled, double-blind phase 3 trial conducted in Europe, Latin America, Russia, and North America (E4COMFORT I, NCT04209543).

**Patients:** Included were both hysterectomized and non-hysterectomized participants aged 40–65 years, experiencing  $\geq 7$  moderate-to-severe VMS per day or  $\geq 50$  per week during the week before randomization.

**Intervention(s):** Daily treatment with E4 15 mg (n=213), E4 20 mg (n=213), or placebo (n=214).

**Main Outcome Measures:** Post-hoc analysis of the percentage participants achieving a complete suppression of moderate-to-severe VMS.

**Results:** The analysis included 640 participants. Compared to placebo, E4 treatment resulted in a significant complete VMS reduction in weekly frequency starting from Week 3 for E4 15 mg (9.2% vs 4.0%,  $p < 0.05$ ) and from Week 4 for E4 20 mg (15.4% vs 5.0%,  $p < 0.05$ ,  $\chi^2$  test).

By Week 12, the 100% responder rates increased to 32.5% for E4 15 mg ( $p < 0.01$ ) and 38.5% for E4 20 mg ( $p < 0.0001$ ), compared to 17.4% for placebo. E4 20 mg consistently showed higher 100% responder rates across all timepoints.

**Conclusions:** Treatment of moderate to severe VMS with E4 resulted in a significant and sustained complete relief in one-third of trial participants highlighting its efficacy in reducing VMS, and its potential to improve the quality of life in postmenopausal women.

## Menopause

## The changes in endometrial thickness in women who use sequential menopausal hormonal therapy (MHT)

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**Context:** It is debatable which endometrial thickness is safe in women who use MHT (Dreisler E, 2022). The Smith-Bindman meta-analysis proposed 5 mm threshold. Levine in 1995, Mossa and co-workers in 2003 proposed 8 mm threshold. In 2000 a study of Omodei and co-workers demonstrated no cases of cancer, if ET was less than 4 mm.

Transdermal estradiol is supposed to have less risk of venous thromboembolism (VTE) and sequential dydrogesterone use is supposed to have fewer negative effects on breasts.

**Objective:** To analyse sonographic endometrial thickness changes in women who use sequential menopausal hormonal therapy (MHT).

**Methods:** Retrospective analysis of medical records of women who are using sequential menopausal hormonal therapy.

**Intervention(s):** There were no additional interventions.

**Patients:** Ten menopausal patients used transdermal estradiol: one spray (1.53 mg) daily and dydrogesterone (10 mg) 12 days in a month from 1 to 5 years. The main indication was vasomotor symptoms. The endometrial thickness was recorded before use of MHT, then during every and last visit while using MHT. The history of bleedings was also recorded.

**Results:** The median age of women was 51 years, (95% CI 47-55). The median ET before use of MHT was 3.3 mm (95% CI 2.3-4.1) and the median ET during the last visit was 3.0 mm (95% CI 2.7-3.6).

Only 2 women of the 10 had regular bleedings after the dydrogesterone use, while the other women had only 1-2 bleedings in the beginning of MHT. The median follow up was 3 years (95% CI 2-4).

**Main outcome:** The median ET changed from 3.3 mm to 3.0 mm.

**Conclusions:** The use of low dose transdermal sequential MHT does not change endometrial thickness and (mostly) does not cause regular bleedings, therefore it could be a comfortable and supposedly less risky MHT recommendation.

## Menopause

## Effects of MYO-inositol (MYO) and Banaba extract standardized to 1% corosolic acid (BNB) supplementation on HOMA-IR and HIE (Hepatic Insulin Extraction) in Overweight/Obese Postmenopausal Women

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**Context:** Insulin resistance and metabolism overall, worsen during menopausal transition, contributing to the increase in cardiometabolic risk in women.

**Objective:** We aimed to evaluate the effects of supplementation with MYO-inositol (2 g) and BNB extracts (48 mg) standardized to 1% corosolic acid on metabolic parameters in overweight/obese postmenopausal women.

**Patients:** Eighteen overweight/obese postmenopausal women (BMI 30.47±0.91, mean±SEM) were enrolled after providing informed consent.

**Intervention:** Daily administration of one sachet containing MYO (2 g) and BNB extracts (48 mg).

**Methods:** Hormonal and metabolic parameters, along with glucose, C-peptide, and insulin plasma levels after oral glucose tolerance test (OGTT), were assessed before and after 12 weeks of daily supplementation with MYO and BNB extracts. HOMA-IR and the hepatic insulin extraction index (HIE, insulin/C-peptide) were calculated for each patient. A hyperinsulinemic response was defined as insulin levels exceeding 50 µU/ml within 90 minutes after glucose load.

**Results:** After 12 weeks, patients showed significant reductions of baseline insulin plasma levels, HOMA-IR, and HIE. OGTT revealed a significant decrease of insulin levels all along the test, with C-peptide levels significantly reduced only at 90 and 180 minutes after glucose load. When computed all along OGTT, HIE levels decreased significantly at each point time of the test, thus suggesting an improved hepatic insulin clearance. No changes were observed in the glucose response under OGTT.

**Conclusions:** This supplementation significantly improved insulin sensitivity and reduced insulin resistance in overweight/obese postmenopausal women. Enhanced peripheral insulin sensitivity decreases pancreatic insulin synthesis (as shown by the reduced C-peptide levels) and increases hepatic insulin clearance (sustained by the reduced HIE). Such results suggest a relevant effect in counteracting the main triggers of Metabolic Syndrome that might lead to cardiometabolic risks associated with the menopausal transition.



## Menopause

## Menopause and the role of regular exercise – a survey of women aged 40–65

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**Context** : Awareness about menopause has increased over the last decade, yet studies have shown that women still lack knowledge regarding the subject. Likewise, awareness of women between the age of 40–65 on the potential role of physical activity prior to and during menopause in women is unclear.

**Objective:** This study was to assess the sources of knowledge and awareness of menopause amongst women between the ages of 40 and 65 who are pre-, peri- and post-menopausal and gain insight into their beliefs about the role of exercise.

**Methods** : Women (n = 276) aged 40–65 years completed a survey rating their knowledge, answered fact-based questions and reported their experiences of menopause.

This study used an online questionnaire, designed on Smart survey with four parts. The first part obtained descriptive details of the participant including age, occupation and highest educational level achieved. The second part assessed knowledge on menopause with two general questions: ‘How would you describe your current knowledge level on menopause’ and ‘How would you describe your knowledge level on menopause 10 years ago’. The third part allowed participants to respond to questions according to what category of menopause they believed they were at pre-, peri or post-menopause. The final section asked about their rating of physical activity level, exercise reasons, barriers, and experiences.

Recruitment to the study was achieved through social media. The survey was live between January 2024 and April 2024.

**Main Outcomes** - The data was analysed using SPSS and Braun and Clarke’s 6-stage method. The sample was split into Pre-, peri- and post-menopausal and compared using Kruskal–Wallis tests.

**Results** - Women reported their confidence in their current knowledge level at 67%, reflecting 37% higher rating than an estimate of their knowledge 10 years ago. Their factual knowledge score was 56%. Knowledge was primarily gained through friends and family and almost half (46%) had not spoken to a healthcare professional. Women using HRT (44%) had mixed attitudes towards its role.

**Conclusions:** Menopause education strategies for women, healthcare professionals and others need to be improved. Exercise as an intervention needs to be investigated as a prescribed treatment for menopause symptoms and longterm associated risks. Promoting physical activity to women needs to be supported along with studies establishing efficient regimes to assist practitioners inform patients.

## Menopause

## Latvian Cheeses an Important Source of Calcium for the Prevention and Treatment for Premenopausal and Menopausal Woman

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**Context.** Osteoporosis Guidelines recommend taking 1200 mg of calcium (Ca) with different foods. Data on the amount of Ca in various local Latvian kinds of cheese to be collected.

**Objective.** The study aimed to determine the amount of Ca in Latvian cheeses of various groups and types produced in Latvia from 01/11/2021 to 01/02/2022.

**Methods.** For descriptive analysis, we collected data on the amount of Ca in cheeses produced locally in Latvia. Ca amounts were evaluated in standardized samples in the Institute of Food Safety, Animal Health and Environment (BIOR) and J. S. Hamilton Baltic lab, using plasma mass spectrometry (ICP-MS). The study is divided into six steps. 1st step – is the identification of producers (joint-stock companies, Ltd, farms, individual producers) according to a specially designed survey questionnaire for this study, 2nd step – is the selection of manufacturers, 3 – is the choice of manufacturers, 4 – is a grouping of cheese according to producers, 5 – analysis of results, 6 – publication of research data. Data analysis was performed using IBM SPSS 26.0.

**Patients Intervention.** No interventions were performed on the diagnostic or therapeutic processes.

**Main Outcome Measures.** The study focused on determining the Ca content in various groups and types of Latvian cheeses.

**Results.** We identified 84 cheese manufacturers in Latvia. Answers to the questionnaire were obtained from 45 (54%) manufacturers. We collected 35 cheese products. We picked 24 producers with 39 types of Latvian cheeses. All cheeses are divided into three groups (gr.) depending on the amount of water: soft, semi-hard, and hard. The Ca content of soft cheese gr. was 361.6 mg/100g. Semi-hard – 538.3 mg/100g. Hard cheese – 866.5 mg/100g. Ca mean amounts in all cheeses were 493.6 mg/100g. There are differences in the amount of Ca in different types of cheese that are statistically significant ( $p < 0.001$ ). Differences in the amount of Ca between goat and hard cheeses ( $p < 0.020$ ), between soft and hard cheeses ( $p < 0.028$ ), and between St. John's and hard cheeses ( $p < 0.040$ ).

**Conclusions.** Cheese is an essential daily source of Ca for pts with osteopenia and osteoporosis, as well as for the prevention and treatment of premenopausal and menopausal women. Cheese has become one of the most consumed milk products. Different types of cheese satisfy pts with different tastes. For the first time, we obtained data on the Ca content of Latvian cheese types from various producers.

## Menopause

## Acupuncture and herbal medicinal products in the treatment of perimenopausal and menopausal symptoms in women

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Menopause is a natural period in every woman's life, marking the last menstruation. It is a natural aging process of the female body, not a disease, and it brings a series of accompanying changes that can significantly reduce a woman's quality of life.

The physiological period of menopause occurs between the ages of 45 and 55.

The best and fastest control of accompanying symptoms is achieved through the use of hormone replacement therapy (HRT) and phytotherapy.

Estrogen can be applied locally (for urogynecological problems), and a change in diet along with regular exercise is recommended.

Around 610 BC, Qianjing Yaofang first described in Traditional Chinese Medicine (TCM) a formula for female reproductive system diseases that combines phytotherapy with acupuncture. In ancient China, acupuncture was a "taboo topic" during pregnancy, childbirth, and postpartum periods, as well as during menstrual bleeding, but more recent "Western acupuncture" has introduced acupuncture into this branch of medicine in the last decades of the 20th century.

In acupuncture treatment in gynecology, the most common points of the kidney, liver, spleen, heart, and the RM and DM meridians are used. Auriculotherapy also plays a significant role.

The rule is that acute conditions are needled once a week for 10-12 weeks.

The approach to counseling and treatment in menopause should be strictly individual, respecting the personality of the patient, her wishes and thoughts, without an aggressive approach, giving the patient the opportunity to choose.

## Sexuality

## Specific positional deep dyspareunia pattern aids clinical diagnosis of endometriosis

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**Context:** Most women with endometriosis suffer deep dyspareunia, yet there is no published research systematically reporting pain in specific positions.

**Objective:** We aimed to identify any consistent patterns of peno-vaginal dyspareunia to aid diagnosis & inform counselling on reducing further sexual pain.

**Methods:** Women attending a pelvic pain & dyspareunia clinic over a two year period were asked to describe their symptoms including which different positions were more or less painful.

Women were clinically diagnosed with endo by dysmenorrhoea symptom triage:

1. Disabling dysmenorrhoea affecting sport/work/school attendance
2. Dependence on painkillers/hot water bottles/other heat sources
3. Pain improved by or worse on stopping OCPill, DMPA or LNG-IUS
4. Menstrual dyschezia +/- deep tampon insertion pain
5. Similar symptoms or proven endo in 1st or 2nd degree relative

Those with 4 +/- 5 had "Probable" endo, the rest were "Possible"

Separately, we found 79% of women with such symptoms had endo at 1st laparoscopy & 7% were thus diagnosed later (86% overall). All were screened for STIs & Chlamydial Antibody Titre (CAT) & had causes of introital dyspareunia excluded or treated.

**Patients:** Of 78 women (mean age 23, range 17–42), 28 had "Possible" & 50 had "Probable" endo. 8 women with CAT  $\geq 512$  were excluded as having salpingitis or both conditions. This left 70 subjects: 25 Possibles & 45 Probables.

**Results:** 73% of the whole group had primary deep dyspareunia, including 27 of 28 women with menstrual dyschezia. Of those who tried female superior ("CowGirl") & kneeling ("Doggy") positions, 86% & 81% had moderate/severe pain respectively. Pain in "Missionary" position depended on leg/pelvic angles & differing partner skills/penile size with 61% reporting moderate/severe pain. NONE of 69% who had tried "Spoons" or or 50% trying "Male Astride" positions had any significant pain. Six women who had not tried "Spoons" reported pain-free sex after being thus advised.

**Conclusions:** This first systematic report of positional deep sexual pain showed that women with severe dysmenorrhoea suggestive of endometriosis typically experience primary deep vaginal dyspareunia in female superior and kneeling positions, and no pain in "Spoons" or "Male Astride". Women with presumed or proven endometriosis, and their partners, could benefit from advice to concentrate on non-penetrative sex or positions which prevent deep penetration avoiding pressure in the posterior fornix.

## Sexuality

## Prevalence of Symptoms of Sexual Dysfunction in a Cohort of Young Female Students

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**Context:** With particular regard to young women, results from studies on the prevalence of symptoms of sexual dysfunction were limited and have, therefore, been discussed in a controversial manner.

**Objective:** During the last decade, the physiology of the female sexual response as well as female sexual dysfunction (FSD) have received increasing awareness from both the scientific and medical community. FSD is a complex subject comprising different conditions related to multiple causes including vasculogenic, neurogenic, endocrine and (socio)psychological factors. FSD has been reported to be age-related and highly prevalent in the female population in westernized countries (such that 30% to 50% of adult women complain of sexual disorders). Our study aimed to evaluate the prevalence of symptoms of sexual disorders in a university-based cohort of young women.

**Methods:** A three-domain questionnaire was distributed to a cohort of 998 female students (mean age: 24 years) who were enrolled at the Hannover Medical School (Hannover, Germany). The form comprised 45 questions of which 31 were related to the sexual response and performance of the individuals, these questions addressed symptoms of hypoactive sexual desire as well as those of arousal, orgasmic and pain disorders.

**Patients/Interventions:** A three-domain questionnaire related to sexual response and performance, as well as to symptoms of hypoactive sexual desire, arousal, orgasmic and pain disorders was distributed to a total of 998 female students.

**Main Outcome Measure:** Evaluate the prevalence of symptoms of sexual disorders in a university-based cohort of young women.

**Results:** 648 (65%) of the women completed the questionnaire. Approximately 40% of the participants reported permanent or temporary conditions of an impairment of sexual desire, absent or diminished vaginal lubrication and/or a disability to attain an orgasm upon clitoral or vaginal stimulation. This resulted in episodes of sexual frustration or general problems in relationships. Interestingly, only a minority of the women had difficulties to get sexually aroused.

**Conclusions:** The results indicate that FSD tends to have a relatively high prevalence among the young women evaluated. Impairments of sexual desire and orgasm function were more frequently than arousal disorders and sexual pain (intercourse) disorders. Further studies are indicated in order to identify potential risk factors associated with FSD in young females

## Sexuality

## What are the expectations of the female partners of the patients on penile rehabilitation programs after nerve-sparing prostatectomy?

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**Context:** Several strategies are published for postoperative erectile function rehabilitation after nerve-sparing radical prostatectomy (nsRP). Expectations of the female partners of the patients are rarely subject of most of these rehabilitation studies.

**Objective:** The aim of our study was to evaluate the expectations of the partners of patients undergoing nerve-sparing radical prostatectomy and penile rehabilitation programs.

**Methods:** We performed a questionnaire sent to the partners of all enrolled patients of 3 different penile rehabilitation studies after nsRP with a regular dose of different PDE5-inhibitors (sildenafil/vardenafil/tadalafil).

**Patients:** 124 patients (mean age 69 years) had been enrolled in the rehabilitation studies and their partners (mean age 66 years) were included in this study. The survey consists of different questions, e.g. if the partners believe in the rehabilitation concept and what they expect with regards to the outcome.

**Results:** 78 partners of the 124 patients (63%) completed and returned the questionnaire. Before rehabilitation treatment 51 partners (65%) believed in the concept of rehabilitation, but only 32 partners (41%) expected partly to fully rehabilitation of erectile function of the partners caused by the initiated penile rehabilitation program. After the end of the study treatment, 2 years after nsRP, 45% of the partners are satisfied by the recovery of erectile function of their partners.

**Conclusions:** Only 41% of the partners of patients within penile rehabilitation programs expect partly to fully recovery of erectile function after nsRP. Satisfaction rate with erectile function recovery was reported by 45% of the partners 2 years after nsRP.

## Sexuality

## Adjuvant treatment with a non-hormonal centella Asiatica, hyaluronic acid and prebiotic-based vaginal gel in women with recurrent vaginal dysbiosis: case series

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**Context:** Vaginal dysbiosis (VD) is characterized by the loss of *Lactobacillus* spp. dominance that frequently is associated with several conditions such as bacterial vaginosis. Also, VD can foster the development of sexually transmitted diseases and pelvic inflammatory disease, among others. VD is frequently treated with antibiotics, which ultimately do not treat the origin of the VD, hence having a high recurrence incidence due to the baseline microbiota imbalance.

**Objective:** To report the effect of a non-hormonal niosomal *Centella asiatica*, niosomal hyaluronic acid and prebiotic-based vaginal gel (Palomacare® Vaginal Gel) as an adjuvant treatment to prevent recurrent VD through a clinical cases series.

**Patient(s):** Here we present 3 case reports of women between 21-32-year-old with symptoms of recurrent VD, who already were treated with antibiotic/antiseptic, but had 3 to 4 VD episodes afterwards.

**Intervention(s):** 3-4 weeks treatment with a non-hormonal niosomal *Centella asiatica*, niosomal hyaluronic acid and prebiotic-based vaginal gel combined with adequate antibiotic/antiseptic treatment depending on each case.

**Result(s):** All three patients showed a complete remission of the symptoms, including vaginal discharge, malodour leukorrhea and erythema and, more importantly, no relapse had occurred when the patients were re-examined 6 to 12 months after finalising the treatment.

**Conclusions:** These case series show that the adjuvant treatment with a non-hormonal *Centella asiatica*, hyaluronic acid in niosomes, and prebiotic-based vaginal gel (Palomacare® Vaginal Gel) could be a useful adjuvant tool for the management of recurrent VD. Prospective studies are necessary to confirm these promising observations.

## Sexuality

## 10-step-approach of laparoscopic pectopexy combined with supracervical hysterectomy.

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**Context:** Apical prolapse refers to the descend of the vaginal apex, uterus or cervix. The gold standard treatment of this condition is laparoscopic sacrocolpopexy. The technique of laparoscopic pectopexy (LP) is suggested as an alternative approach, especially suitable for obese patients.

**Objective:** To demonstrate a 10 consecutive surgical steps in order to safely perform LP in combination with a supracervical hysterectomy.

**Methods- Patient:** A 68-year-old patient was referred to our department with symptomatic, apical prolapse POP-Q IV. She underwent LP following the 10-step-approach.: 1. Division of round ligaments and Extension of Dissection towards the Pelvic Sidewall 2. Identification of the Iliopectineal ligament. 3. Division of the uterovesical peritoneum and development of the vesicovaginal space. 4. Supracervical hysterectomy 5. Opening of the rectovaginal space 6. Closure of the cervical canal 7. Insert the mesh and fix it with sutures on the cervix, anterior and posterior vagina. 8. Anchor the lateral arms of the mesh on the iliopectineal ligaments bilaterally. 9. Closure of the overlying peritoneum. 10. Morcellation of the uterine corpus. Our patient had minimal intra-operative blood loss, was discharged home on post-operative day 1 and made an uneventful recovery.

**Results:** The operation was performed successfully without any peri- or post- operative complications. The patient had an uneventful recovery and was discharged on the first postoperative day.

**Conclusions:** LP represents a safe and reproducible surgical technique for treating apical prolapse. The procedure can be performed by surgeons with advanced minimal access skills, by following the hereby presented 10 consecutive steps.



Infertility, fertility preservation, ethics

## Supplementation with 3.6:1 Myo-Inositol/D-Chiro-Inositol, Antioxidants and Probiotics to Improve Oocyte Quality and Increase Pregnancy Chances in Women with History of ART Failures without PCOS

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**Context** Assisted reproductive techniques (ART) may be challenging for women facing repeated failures. Improving oocyte quality is crucial to increasing the chances of pregnancy. The administration of inositols in a specific ratio of 3.6:1 of Myo-inositol (MYO) to D-chiro-inositol (DCI) has been shown to increase the oocyte quality and pregnancy rates in women with polycystic ovary syndrome (PCOS).<sup>1,2</sup> Inositols may also enhance ovarian response, improve oocyte quality, and increase the chances of pregnancy in women with previous ART failures without PCOS.

**Methods** We present a series of case reports involving four patients without PCOS who attended different fertility clinics across Spain in 2023. These women sought treatment for infertility lasting between 6 months and 5 years.

**Intervention** All had previously undergone unsuccessful ART cycles and were subsequently recommended to pursue another ART cycle, preceded by supplementation with a formula containing Caronositol® (3.6:1 MYO to DCI ratio), antioxidants (Punica granatum extract, melatonin, coenzyme Q10), probiotics (*L. crispatus*, *L. acidophilus*, *L. rhamnosus*), and key vitamins and minerals, including 5-methyltetrahydrofolate, B vitamins, D3, E, zinc, selenium, and iodine.

**Results** Among the four women, three (aged 33, 36, and 40) were diagnosed with repeated implantation failures, while one (aged 29) had experienced unsynchronized follicle maturation in previous ART procedures. All cases involved poor oocyte quality. After 3-6 months of supplementation, three of the women underwent successful IVF, achieving pregnancy. The fourth patient was able to produce a higher number of good-quality embryos for social preservation. Across all cases, there were marked improvements in ovarian stimulation response, oocyte quality, fertilization rates, and progression to the blastocyst stage. While the role of chance cannot be entirely ruled out, it is notable that all patients had previous ART failures and only achieved success following supplementation.

**Conclusions** This case series suggests that supplementation with a 3.6:1 ratio of Myo-inositol to D-chiro-inositol, along with antioxidants, probiotics, and essential vitamins, may improve oocyte quality, fertilization, and implantation rates in women with previous ART failures without PCOS, even in cases of advanced maternal age.

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Infertility, fertility preservation, ethics

## Treatment with a patented 3.6:1 Myo-Inositol/D-Chiro-Inositol, Antioxidants and Probiotics to Increase Pregnancy Chances in Women with Advanced Maternal Age and Low Ovarian Reserve

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**Context** Both low ovarian reserve and poor oocyte quality reduces the chances of successful fertilization, implantation, and pregnancy, making it more challenging for women of advanced maternal age to conceive, whether naturally or through assisted reproductive techniques (ART). Recent studies suggest that a specific 3.6:1 ratio of Myo-inositol (MYO) to D-chiro-inositol (DCI) may improve oocyte quality and pregnancy rates in women with polycystic ovary syndrome.<sup>1,2</sup> Administering this ratio of inositols may also increase the chances of pregnancy in women with advanced maternal age and low ovarian reserve.

**Methods** We present a series of case reports involving four patients aged 35 to 39 who attended different fertility clinics across Spain in 2023, seeking treatment for infertility lasting between 2 to 5 years.

**Intervention** Two of the patients underwent ART procedures after supplementation with a formula containing Caronositol® (3.6:1 MYO to DCI ratio), antioxidants (Punica granatum extract, melatonin, coenzyme Q10), probiotics (*L. crispatus*, *L. acidophilus*, *L. rhamnosus*), and essential vitamins and minerals such as 5-methyltetrahydrofolate, B vitamins, D3, E, zinc, selenium, and iodine. While the remaining two solely initiated supplementation and lifestyle changes.

**Results** All women exhibited low antimüllerian hormone levels, indicating reduced ovarian reserve. After 2–3 months of supplementation, two women conceived spontaneously, one of whom had associated endometriosis. Another woman, also with endometriosis, who had previously experienced two failed IVF-ICSI cycles, achieved pregnancy on her third IVF attempt after 3 months of supplementation. The fourth woman, following two unsuccessful artificial insemination attempts, became pregnant on her third attempt after supplementation. While the possibility of chance cannot be entirely dismissed, it is noteworthy that all patients achieved success only after receiving the supplementation.

**Conclusions** The supplementation regimen with a specific 3.6:1 ratio of MYO to DCI, combined with antioxidants and probiotics, led to successful pregnancies in women with low ovarian reserve and advanced age, regardless of whether they underwent ART.

### References

1. Mendoza N, et al. Gynecol Endocrinol 2020;36(5):398-401.
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Infertility, fertility preservation, ethics

## **Antinatalism and Intended Infertility**

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Though not being a mainstream philosophical tradition, antinatalism has had its place in the annals of philosophy. It is a view that is critical of human reproduction – it considers coming into existence as a harm for sentient beings and/or deems procreation as immoral. It thus argues that humans should abstain from having children. This view is now getting more mainstream as more and more women choose to be childfree, which may be for various reasons. However, such women frequently feel the stigma of their choice and rejection by their families, the public, and also, sadly, by their healthcare providers. This presentation makes a case for such women because having a child is a human right, not a duty. This presentation advances the view that non-parenthood is a valid option for all humans. Whatever their reasons, people who want to stay childfree, deserve respect to their choice and autonomy. As such, we should emphasize our support to them instead of stigmatising and/or coercing them into unwanted parenthood.

Infertility, fertility preservation, ethics

## Prevalence and impact of female endocrine disorders in assisted reproduction

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**Context:** Infertility has increased over the past decades, partly due to the female advanced age. The prevalence of endocrine disorders also increases with age. Except diminished ovarian reserve (DOR), they are not primary indications but may affect the success of ART.

**Objective:** To examine the (1) prevalence of female endocrine disorders in ART, the (2) impact of treated endocrine pathologies and (3) thyroid autoimmunity (TAI) on IVF outcome.

**Methods:** single-center prospective cohort, university-based IVF center

**Patients:** 231 consecutively enrolled women (mean age 34, range 21–44) treated with ICSI for various infertilities (male factor 30.3%, DOR 23.8%, tubal factor 18.6%, chronic anovulation 13.8%, unexplained infertility 7.7%, endometriosis 5.6%).

**Intervention(s):** At recruitment and before the IVF cycles serum FSH, LH, E2, PRL (mPRL) if PRL, TSH, fT3, fT4, TPOAb, TGAb, sperm antibody, TT, fasting glucose and insulin, AMH. Insulin Resistance (IR) diagnosis was based on OGTT (0, 60, 120-min glucose and insulin). Rotterdam and Bologna criteria were used for PCOS and DOR. In all cases, after the correction of endocrine parameters, ICSI and fresh embryo transfer was performed.

**Main Outcome Measures:** Prevalence of different endocrine disorders and impact on IVF outcomes: fertilization rate (FR), clinical pregnancy rate (CPR), miscarriage rate (MR), live birth rate (LBR).

**Results:** Endocrine disorders were detected in 161 patients (69.7%, mean age: 35 years, range: 19–45), 70 patients (30.3%, mean age: 32 years, range 21–44) had normal endocrine profile. The prevalence of endocrine disorders were: thyroid ( $n=75/231$ , 32.5%), DOR ( $n=55/231$ , 23.8%), IR ( $n=52/231$ , 22.5%), PCOS ( $n=35/231$ , 15.2%), hyperprolactinaemia ( $n=31/231$ , 13.4%), obesity ( $n=28/231$ , 12.1%), hypogonadotropic hypogonadism ( $n=2/231$ , 0.8%) and congenital adrenal hyperplasia ( $n=1/231$ , 0.2%). Number of retrieved oocytes and CPR was significantly lower in endocrine-positive group (34.16% vs 61.43%,  $p=0.003$ ), even after age correction ( $p=0.0151$ ). In treated hypothyroidism with TAI+ ( $n=89$ ) FR was similar to TAI- patients ( $N=69$ ) (62.91 vs. 69.12%;  $p=0.12$ ) but there were differences in the age groups below 35: age  $\leq 25$  ( $p=0.0061$ ), 25–27.5 ( $p=0.0052$ ), 27.5–30 ( $p=0.0064$ ), 30–32.5 ( $p=0.023$ ), 32.5–35 ( $p=0.21$ ), 35–37.5 ( $p=0.82$ ), 37.5–40 ( $p=0.21$ ), 40–42.5 years ( $p=0.21$ ). In TAI+ patients CPR was lower (36.04% vs. 69.56%;  $p<0.001$ ), MR was higher (35.48% vs. 12.5%;  $p=0.024$ ), LBR was lower (23.2% vs. 60.86%;  $p<0.001$ ), difference remained after age correction.

**Conclusions:** (1) High prevalence of female endocrine disorders IVF programs was confirmed and (2) despite optimal treatment they effect ART outcome adversely. (3) Hashimoto disease is the most frequent endocrine comorbidity is, and TAI negatively influence the IVF outcome measures (FR, CPR, MR, LBR) even with L-thyroxine treated euthyroid women.

Infertility, fertility preservation, ethics

## Follicular fluid oxidative-reductive potential – the marker for assisted reproductive treatment outcomes.

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**Context:** Free radicals and oxidative molecules interact with every cell in the human body. Follicular fluid (FF) and cumulus oophorus cells regulate oxidative and antioxidative processes during oocyte development. Oxidative-reductive imbalance could be linked to impaired oocyte development and fertilization disturbances

**Objective:** To evaluate the oxidative-reductive potential (ORP) in the FF, analyse its correlation with a woman's age, and assess its possible effect on the outcome of assisted reproductive treatment.

**Methods:** In our prospective observational study, FF samples from 170 women undergoing egg retrieval at the “iVF Riga” clinic were analysed from 25.03.2024 to 01.10.2024. Informed consent was obtained from each participant. The Central Medical Ethics Committee has approved the study (Approval No.01-29.1.2/3668). ORP was measured using the Myoxys C+® system, analysing static oxidative-reductive potential (sORP), reflecting the balance between oxidants and reductants, and capacitance oxidative-reductive potential (cORP), representing antioxidant capacity reserve. Correlations between sORP and cORP with the woman age, number of cumulus oophorus-oocyte complexes (COC), oocytes in meiosis II (MII), 2PN, and good and top quality blastocysts (GQBC) were assessed.

**Patients:** Median age 37 years (range 25-48). In total 1076 oocytes retrieved, and 559 embryos assessed. In most cases antagonist stimulation protocol was used.

**Main Outcome Measures:** Outcome measures studied include the ORP values in the FF, the number of COC, MII oocytes, 2PN and GQBC.

**Results:** A significant negative correlation between sORP and cORP in the FF observed ( $p < 0.0001$ ). Age is positively correlated with sORP ( $p=0.01$ ) and negatively with cORP ( $p=0.03$ ). A twofold reduction in cORP found in women  $>37$  years compared to those  $<35$  years ( $p=0.0001$ ). Higher sORP values are negatively associated with the number of COC and MII oocytes, whereas higher cORP values are linked to better outcomes. sORP and cORP showed greater AUC (the area under the ROC curve: 0.700;  $p=0.003$ ; 0.655;  $p=0.024$ ) than female age for predicting GQBC development in patients over 35 years.

**Conclusions:** This study demonstrates that assessing ORP in FF, similar to the seminal fluid, is a practical tool for predicting assisted reproductive treatments the outcome. The oxidative stress measures have a greater probability of predicting GQBC in the advanced age group.

Infertility, fertility preservation, ethics

## Is the Number of Follicles on the Day of hCG Trigger Related to the Pregnancy Rate in Intrauterine Insemination?

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**Context:** The number of follicles obtained during ovarian stimulation has been hypothesized to influence the pregnancy rate in intrauterine insemination (IUI) cycles, with a higher number of follicles potentially leading to better outcomes.

**Objective:** To analyze whether there is a significant difference in pregnancy rates after IUI between women who develop only one follicle and those who develop two or more follicles during controlled ovarian stimulation.

**Methods:** A retrospective study was conducted including 468 women undergoing IUI. Participants were divided into two groups: Group 1 (n=323) with one follicle developed and Group 2 (n=145) with two or more follicles. Variables analyzed included age, infertility duration, gonadotropin dose, recovery of motile spermatozooids (REM), endometrial thickness, and the number of IUI attempts. Statistical analyses was made with SPSS.

**Patient(s):** Women undergoing ovarian stimulation for IUI in our institution between january 2018 and october 2024, with comparable baseline characteristics.

**Intervention(s):** Controlled ovarian stimulation using gonadotropins, followed by IUI.

**Main Outcome Measures:** Pregnancy rates across groups and comparison of secondary variables, including gonadotropin dose, REM, and endometrial thickness.

**Results:** Baseline characteristics were similar between groups, including age (35.17 vs. 35.18 years,  $p=0.749$ ), infertility duration (37.84 vs. 39.50 months,  $p=0.738$ ), REM (13.62 vs. 13.32 million,  $p=0.901$ ), and endometrial thickness (8.72 vs. 9.07 mm,  $p=0.085$ ). Gonadotropin dose was significantly higher in Group 2 (606.15 vs. 585.16 IU,  $p=0.012$ ). There was no difference in pregnancy rates based on the number of IUI attempts ( $p=0.158$ ).

Regarding our main investigation question, no significant difference in pregnancy rates was found between Group 1 and Group 2 ( $p=0.452$ ).

**Conclusions:** This study suggests that pregnancy rates after IUI are similar regardless of whether one or multiple follicles are developed during controlled ovarian stimulation. Women with only one follicle can be reassured that their chances of pregnancy are comparable to those with two or more follicles.

Infertility, fertility preservation, ethics

## The value of Progesterone Induced Blocking Factor in the prognosis of Early Pregnancy Loss

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**Context:** Infertility stands as one of the most significant concerns in Reproductology. The prevalence of infertility worldwide has increased and reached 17.5%. The causes in almost half of cases are unknown and called “Unexplained Infertility” which is an indication for In Vitro Fertilization (IVF). All these patients may even conceive, but these pregnancies remain undiagnosed and are lost before the delay of the period, which has been classified as Early Pregnancy Loss (EPL).

Among complex neuro-endocrinological and immunological mechanisms processes, one of the main factors is the Progesterone-Induced Blocking Factor (PIBF).

**Objective:** The assessment of the prognostic value of PIBF in EPL in women who conceived in the natural cycle and after IVF. Finding of the correlation between PIBF and Progesterone (PG) values.

**Methods:**  $\beta$ hCG, PIBF and Progesterone values were assessed on the 12th to 14th day after ovulation and embryo transfer.

**Patients:** 86 patients with unexplained infertility were divided into two groups: Group A – naturally conceived 50 patients; Group B – 36 women, after IVF. Both groups were divided into three subgroups: AI (n=19) and BI (n=15) – patients with progressive pregnancy; AII (n=18) and BII (n=10) – patients with EPL; AIII (n=13) and BIII (n=11) – patients with biochemical pregnancy (BP).

**Main outcome measure:** Pregnancy duration.

**Results:** In the naturally conceived subgroup, the mean level of PIBF was statistically significantly higher in patients with progressive pregnancy compared to patients with EPL and biochemical pregnancy,  $P < 0.05$ , but no significant difference was found in PIBF level between AII and AIII,  $P > 0.05$ . However, the mean PG level was statistically significantly different in groups AII and AIII,  $P < 0.05$ . Similarly, after IVF, PIBF value was statistically higher in patients with progressive pregnancy, but no significant difference was found in PIBF level between subgroups BII and BIII,  $P > 0.05$ . Still, the PG level was statistically significantly lower in the BIII subgroup than in the BII subgroup,  $P < 0.05$ .

There was no significant correlation between PIBF and PG in the subgroups ( $P > 0.05$ ).

**Conclusions:** Low PIBF level before delaying menstruation may be considered a prognostic marker for early pregnancy loss, encompassing even its preclinical stage as in naturally conceived women, and also in women after IVF.

Infertility, fertility preservation, ethics

## A NEW IMMUNOHISTOCHEMICAL MARKER IN THE CHRONIC ENDOMETRITIS DIAGNOSIS

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**Context** Chronic endometritis (CE) is traditionally diagnosed by combining endometrial biopsy, histopathology, and immunohistochemistry (IHC). IHC for CD138 significantly improved the sensitivity, specificity CE diagnosis but is not yet standardized for human endometrial tissue. Objective The aim of our study was to assess the reliability and accuracy of IHC with the determination of MUM1 in comparison with CD138. Patients We performed hysteroscopy or endometrial aspiration biopsy in 32 women with endometrial polyps, endometrial hyperplasia or atypical uterine bleeding.

**Methods** Standard histopathological examination, IHC for CD138 and MUM1 examination were performed for all 32 cases. The aim was to compare the results of MUM1 and CD138 for the frequency of detection of plasma cells when assessing changes in the endometrial stromal tissue.

**Results** MUM1 shows a minor background staining compared to CD138 and a higher inter-observer agreement.

**Conclusions** The simultaneous use of both IHC-CD138 and IHC-MUM1 could potentially compensate for the shortcomings of each method in the histopathological diagnosis of chronic endometritis.



Infertility, fertility preservation, ethics

## The triad Stem cell, Exosomes and PRP therapy Male and Female Fertility prof. Nino Museridze MD PhD

Museridze Nino (GE)

TMA

### Objective

To explore the synergistic effects of stem cells, exosomes, and platelet-rich plasma (PRP) therapy in enhancing reproductive health in both males and females. This study focuses on understanding the mechanisms, clinical applications, and emerging evidence supporting these regenerative therapies.

### Methods

A systematic review of recent clinical studies and experimental research was conducted. The review focused on the use of stem cells, exosomes, and PRP in treating infertility and improving reproductive outcomes. Key metrics analyzed included fertility rates, sperm and egg quality, and overall reproductive health.

### Patient(s)

Individuals experiencing male and female infertility, participating in clinical studies or experimental treatments involving stem cells, exosomes, and PRP therapy.

### Intervention(s)

Application of stem cell therapy, exosome treatments, and PRP therapy, either individually or in combination, to address infertility and enhance reproductive health.

### Main Outcome Measure(s)

Improvements in fertility parameters, including sperm and egg quality, reproductive health markers, and successful pregnancy rates.

### Results

The integration of stem cells, exosomes, and PRP therapy has shown promising outcomes. Significant improvements were observed in fertility parameters and overall reproductive health. Stem cells and exosomes support cellular regeneration and repair, while PRP enhances tissue healing and functionality. Combined, these therapies provide a comprehensive solution to complex fertility issues.

### Conclusions

Stem cells, exosomes, and PRP therapy represent a significant advancement in reproductive medicine, offering innovative treatment options for both male and female infertility. Continued research could establish these therapies as standard care, offering renewed hope to individuals facing fertility challenges.

Gynecological surgery, urogynecology

## COLPOCLEISIS. Still an option in contemporary treatment of advanced pelvic organ prolapse?

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**Background:** LeFort partial colpocleisis is an obliterative surgical treatment option for advanced pelvic organ prolapse in elderly patients who no longer have sexual activity. We conducted a retrospective study that aims to evaluate the efficiency and success of the LeFort partial colpocleisis.

**Methods:** Between August 2020 and August 2024, 430 cases of uterine prolapse were diagnosed, of which 86 cases with grade IV uterine prolapse. Out of the 86 grade IV uterine patients, in 51 cases the surgical treatment was performed through LeFort partial colpocleisis and posterior perineoplasty.

**Results:** The average age of the patients in the studied group was 72.6 years. Regarding the symptomatology, all patients complained of a sensation of protrusion at the level of the vaginal introitus, perineal pain, involuntary loss of urine and constipation that occurred with the prolapse sensation. The average duration of the surgical intervention was 45 minutes. All surgical interventions were performed under spinal anesthesia. There were no intraoperative accidents or incidents. All cases had a favorable evolution, without relapses until now. Two patients had thread granuloma as a long-term complication. Together with current data from the literature, we aim to observe the role of colpocleisis in the contemporary treatment of pelvic organ prolapse.

**Conclusions:** LeFort partial colpocleisis is a safe, quick and effective procedure, with a high success rate in elderly patients with pelvic organ prolapse. Although it is an obliterative procedure, the result regarding patients quality of life are favorable, making this procedure still a viable option to consider.

Gynecological surgery, urogynecology

## **The utilization of an AI platform in a scoping review on the pathogenesis of stress urinary incontinence (SUI): assistance or hinderance?**

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Although the burden of pelvic floor disorders (PFDs) on patient's quality of life is immense, its pathogenesis remains poorly understood. Stress urinary incontinence (SUI), the most common form of urinary incontinence in approximately 1/3 of women over 45 years of age is characterized by a loss of urine that occurs simultaneously with physical exertion, i.e. exercise, laughing, or sneezing. As anatomical structures of the pelvic floor undergo significant morphological changes due to hormonal effects, numerous investigators have sought to establish the biochemical basis of pelvic floor function by utilizing Radioimmunoassay (RIA) techniques to quantify estrogen, progesterone, and testosterone levels at various time points in the life-span including pregnancy and menopause. However, significant variability exists in data obtained thus far. (1) The aim of this study was to conduct a scoping review of the literature using the novel AI platform Research Rabbit to highlight the most significant (key) publications related to the pathogenesis of stress urinary incontinence since 2001.

**Materials and Methods:** An initial prompt of a key book chapter titled, "Biochemical Properties and Hormonal Receptors of Pelvic Floor Tissues" was entered into search module of Research Rabbit platform yielding a list of related journal articles. (2, 3) Author maps then utilized to identify key opinion leaders (KOL) and publications with subject matter headings of estrogen, progesterone, testosterone, stress urinary incontinence, pregnancy, and pathogenesis selected. Studies published after 2001 given preference and collected for subsequent data extraction. **Results:** A total of 24 publications of various study designs including review articles, original research investigations, randomized controlled trials, prospective or retrospective observational studies were obtained from the AI platform output. These papers then used to conduct a scoping review based on highest quality scientific data available to date. **Conclusions:** The pathogenesis of stress urinary incontinence (SUI) is both multifactorial and complex involving mechanical and biochemical effects on tissue structure and function. The association between changes in sex hormone levels and development of urinary incontinence warrants further investigation, however, less variability in the data is required to draw more definitive conclusions. (4) The use of the AI platform Research Rabbit may aid in overcoming these challenges.

Gynecological surgery, urogynecology

## Metformin is associated with a lower risk of lower urinary tract symptoms in female patients with type 2 diabetes mellitus: a retrospective cohort study in Taiwan

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**Objective:** To investigate the risk of lower urinary tract symptoms (LUTS) with regards to metformin use in female patients with type 2 diabetes mellitus (T2DM).

**Methods:** We enrolled 7309 never users and 120,463 ever users of metformin from female patients with a new diagnosis of T2DM during 1999-2005 from Taiwan's National Health Insurance database. They were followed up from January 1, 2006 until December 31, 2011 for the incidence of LUTS. Hazard ratios weighted on propensity score were estimated from Cox regression.

**Results:** In ever users, 9962 patients developed LUTS and the incidence was 1768.95 per 100,000 person-years. In never users, 912 developed LUTS with incidence of 2903.76 per 100,000 person-years. Ever users had a significantly 40% lower risk than never users. While ever users were categorized into quartiles of cumulative duration of metformin therapy (<21.47, 21.47-44.40, 44.41-72.00 and >72.00 months), the hazard ratios were 1.085 (1.007-1.169), 0.802 (0.745-0.863), 0.482 (0.446-0.520) and 0.252 (0.231-0.273), respectively. For the quartiles of cumulative dose of <584.50, 584.50-1381.00, 1381.01-2544.50 and >2544.50 grams, the hazard ratios were 1.060 (0.983-1.142), 0.761 (0.707-0.820), 0.492 (0.455-0.531) and 0.284 (0.261-0.308), respectively. A significantly lower risk was observed in all quartiles of defined daily dose of metformin. Subgroup analyses supported a lower risk in ever users in patients aged <65 and ≥ 65 years, patients enrolled during 1999-2002 and during 2003-2005, and patients with or without diseases of female genitourinary tract system, respectively.

**Conclusions:** A significantly lower risk of LUTS is observed in female patients with T2DM who use metformin.

Gynecological surgery, urogynecology

## Using hydrating and re-epithelizing gels as an adjuvant treatment of fractional CO<sub>2</sub> laser in the management of genitourinary syndrome of menopause: a prospective clinical case series

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**Context:** Genitourinary syndrome of menopause (GSM) is one of the most prevalent conditions linked with the menopause and greatly impacts the quality of life.

**Objective:** The prospective, observational, pilot study to assess the effect of a combined treatment with ablative CO<sub>2</sub> laser and a niosomal hydrating and repairing vaginal gel (Palomacare® Vaginal Gel) on certain parameters related to vaginal health.

**Methods:** In this prospective, observational pilot study, 22 postmenopausal patients with symptoms associated with GSM were treated for 5 months with niosomal *Centella asiatica*, and hyaluronic acid, and prebiotic-based vaginal gel as an adjuvant treatment to two CO<sub>2</sub> laser session.

**Main Outcome Measure(s):** Vaginal microbiota composition (16S ribosomal RNA gene sequencing), Bachmann, Sandvik and Female Sexual Function Index (FSFI) indexes and satisfaction level.

**Result(s):** The population was  $60 \pm 6.34$ -year-old on average. After treatment, the amount of *Lactobacillus* spp. population was significantly increased from  $4.23 \pm 2.23$  to  $5.36 \pm 2.50$  CFU/g. Specifically, *L. gasearii* from  $1.66 \pm 1.60$  to  $2.49 \pm 1.48$  CFU/g and *L. inners* from  $1.47 \pm 1.5$  to  $2.64 \pm 2.7$  CFU/g. Hence, a significant reduction of vaginal pH from  $6.68 \pm 0.46$  to  $5.5 \pm 0.56$ . Importantly, *Enterobacteriaceae* spp., showed a significant decrease after treatment. Improvement of Bachmann index (from  $10.27 \pm 2.29$  to  $16 \pm 2.18$ ), Sandvik index (from  $2.52 \pm 2.61$  to  $1.09 \pm 0.81$ ) and FSFI ( $2.14 \pm 1.45$  to  $3.08 \pm 1.41$ ) were observed. 95.5% of patients declared being satisfied or very satisfied with the treatment.

**Conclusions:** These results point that this therapeutic approach combining a niosomal *Centella asiatica* and hyaluronic acid, and prebiotic-based vaginal gel (Palomacare® Vaginal Gel) with ablative CO<sub>2</sub> treatment might be useful for the management of GSM; new controlled studies must be done in order to fully determine its effectiveness.

Gynecological surgery, urogynecology

## Rare clinical case of large vulvar lipoma.

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**Context:** Lipomas are defined as slow-growing, subcutaneous, benign soft tissue tumor composed of adipose (fat) cells, encapsulated by a thin layer of fibrous tissue. There is no definite etiology. Some studies show the role of trauma. Lipomas are usually painless, soft, freely-moveable, and of uniform doughy consistency. Giant vulvar lipomas are extremely rare, with few cases reported in the literature, making for about 0.5 percent of all vulvar tumors.

**Objective:** To present a rare case of a large labia majora lipoma.

**Methods:** Clinical case review.

**Patient:** A 37-year-old woman presented with a painful lump on the left side of her labia majora. She has had these complaints for 10 years. Before that, she experienced blunt perineal trauma. The trauma resulted in a large hematoma. After the hematoma resolved, a soft lump appeared in the same region. Until recently, this pathological structure did not affect her daily life, but it has slowly increased in size and has become painful.

**Gynaecologic examination:** On the left side of the labia majora, a subcutaneous structure 7 cm x 3 cm is visible. Overlying skin or mucosa is not affected. During palpation, the mass feels soft, moves freely, and has no defined borders. Its connection to the inguinal canal is uncertain. **CT:** A fat-containing, oval-shaped formation is visualised. Measuring 8.8 cm (AP) and 2.8 cm (LL). After investigation, patient was planned for elective surgery.

**Intervention(s):** Surgery: 5 cm incision is made in the mucosal are. By dividing the mucosa and submucosal, fatty tissue with a thin capsule measuring approximately 15 x 4 cm is isolated. The fatty tissue is successfully separated. Haemostasis is achieved by ligating the supporting blood vessel. Separate Vicryl sutures are applied to the wound, and an intradermal absorbable suture is placed on the skin.

**Results:** Histology: The morphological findings are consistent with a lipoma. No malignancy is detected

After one month, the patient came for a follow-up visit. There are no signs of lipoma recurrence. The patient's quality of life has returned to normal.

**Conclusion:** The most common differential diagnoses for pathological structures in the labia majora are Bartholin gland cysts and abscesses. Less common but always important to consider are inguinal hernias and various benign or malignant neoplastic conditions. Vulvar lipomas are rarely seen, so it is important to exclude more common pathologies before planning surgery.

Gynecological surgery, urogynecology

## Uncommon clinical findings in a large right ovarian tumor complicated with adnexal torsion in postmenopausal woman

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**Case report:** A 62 years old women diagnosed with fast-growing uterine myoma presented for second opinion as the clinical symptomatology was uncommon: strong and persistent epigastric pain that radiate posterior and the right iliac fossa and nausea and a 2 year old pelvic ultrasound showed a diminished uterus and atrophic ovaries clinical examination was suggestive of a pelvic tumor of 10 cm diameter next to the uterus, painless.

Ultrasound examination discovers a retroverted small uterus with thin endometrial lining and anterior and intimately to the uterus an oval tumor 100 mm diameter, with solid appearance similar to a fibroid, color score 1, with no visible vascular pedicle suggesting not to originate in the uterus, both ovaries not visible; a solid right ovarian tumor was suspected and MRI and Roma were recommended. MRI exam detected a mucinous cystadenoma. Roma score was 8,78%. The calculated risc scores showed low risk for malignancy (IOTA models, O -RADS MRI 2, O- RADS ultrasound 2). Laparotomy was performed and a large plaston was found consisting of omentum, small bowel loops, the tumor and uterus. After adhesiolysis and omentectomy a large solid right ovarian tumor with adnexal torsion was discovered. Right adnexectomy was done and extemporaneous examination of the tumor diagnosed an ovarian fibroma. Total hysterectomy and left adnexectomy were performed. Postoperative evolution was uneventful and after 5 days the patient was discharged.

**Conclusion:** The particular features of the case are: the non-specific symptomatology in contrast to the surgical findings of severe complicated right ovarian benign tumor and the diagnostic accuracy in favor of the ultasound exam compared to the MRI.

## Contraception

## E4/DRSP and Sexual Health: Post-hoc Analysis of Phase 3 Clinical Trial Data

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**Context:** Estetrol (E4) 15 mg/drospirenone (DRSP) 3 mg, an oral contraceptive approved in the EU in 2021, has shown contraceptive efficacy, a predictable bleeding pattern, and a favorable safety profile.

**Objective:** To assess the impact of E4/DRSP on sexual drive, interest, and performance based on Quality-of-Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) results from the E4/DRSP phase 3 European clinical trial.

**Methods:** Study participants completed the Q-LES-Q at baseline and end of treatment (EoT). We performed shift analyses to evaluate changes in the sexual function item (Q-LES-Q #10) across three categories: very poor/poor, fair, and very good/good.

**Patients:** Healthy females, ages 18-50, with body mass index  $\leq 35$  kg/m<sup>2</sup>, classified as either starters (no hormonal contraception in the past 3 months) or switchers.

**Intervention:** E4 15 mg/DRSP 3 mg use over up to 13 cycles.

**Main Outcome Measures:** Changes in sexual function assessments at baseline and EoT.

**Results:** Of 1553 participants, 1081 (69.6%) completed the Q-LES-Q at both time points. The 409 starters reported baseline sexual function score distributions of very good/good (n=280 [68.4%]), fair (n=79 [19.3%]), and very poor/poor (n=50 [12.2%]). At EoT, most (n=233 [83.2%]) very good/good starters reported no change and 47 (16.8%) worsened (33 [11.8%] to fair; 14 [5.0%] to very poor/poor). Among fair starters, 26 (32.9%) reported no change, 12 (15.2%) worsened, and 41 (51.9%) improved. Most (n=36 [72.0%]) very poor/poor starters improved (11 [22.0%] to fair; 25 [50.0%] to very good/good) while the remainder (14 [28.0%]) reported no change. The 672 switchers reported baseline sexual function score distributions of very good/good (n=510 [75.9%]), fair (n=94 [14.0%]), and very poor/poor (n=68 [10.1%]). At EoT, most (n=391 [76.7%]) very good/good switchers reported no change and 119 (23.3%) worsened (74 [14.5%] to fair; 45 [8.8%] to very poor/poor). Among fair switchers, 43 (45.7%) reported no change, 20 (21.3%) worsened, and 31 (33.0%) improved. Most (n=41 [60.3%]) very poor/poor switchers improved (17 [25.0%] to fair; 24 [35.3%] to very good/good) while the remainder (27 [39.7%]) reported no change.

**Conclusions:** Among both starters and switchers, most with very good/good baseline sexual function did not worsen while most with very poor/poor function improved. These findings suggest a potential benefit of E4/DRSP on sexual health.



## Contraception

## Population versus Overpopulation: Marx against Malthus

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**Objective:** The human overpopulation currently being witnessed is causing severe problems to both the planet Earth and humanity itself. Because the issues presented by human overpopulation tend to be seen as a politically incorrect topic, they are largely ignored in the public and political domains, despite being identified as important by many great thinkers in recent history. Among them, Malthus and Marx gathered the largest following. The goal of this presentation is to highlight and compare the Malthusian and Marxist approaches, and then discuss the possibilities to solve these problems.

**Methods:** This presentation is based on analysis of *An Essay on the Principle of Population*, *the Kapital*, *Anti-Dühring*, *the Origin of the Family*, and other Marxist and Malthusian literature, as well as on fresh data from United Nations (World Population Prospects, FAOSTAT Database on Agriculture); the Alliance of World Scientists (World Scientist's Warning to Humanity: A Second Notice); the World Wildlife Fund (Living Planet Report), and reports from population conferences.

**Results:** The Malthusian views on population were demographic, i.e. it is necessary to reduce population to improve the economy. The Marxist views were rather economic: it is necessary to improve the economy to reduce population; in other words, if there is economic growth, people will decide to have fewer children. These two opposite approaches can even be found in the themes of international population conferences. While the 1974 conference raised the slogan that "Family planning is the solution," the 1984 conference upheld the slogan that "Development is the best contraceptive pill." Nevertheless, it was the 1994 conference that managed to bridge both approaches, as it acknowledged both the importance of family planning and development while also recognizing sexual and reproductive health as well as girls' and women's rights, education, and empowerment as the pathway to sustainable development.

**Conclusions:** As healthcare providers, we need to continue our work in the promotion of sexual and reproductive health, voluntary family planning, and women's rights, education and empowerment. Nevertheless, given the current political climate and public ignorance of the problem, it is also necessary to – in the tradition of Malthus and Marx – put the population and overpopulation agenda back into public discourse and onto the political table, so to speak, due to their imminence and importance.

## Contraception

## The nAPCsr, the biomarker for CHC-associated thrombotic risk evaluation

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**Context:** Combined hormonal contraceptives (CHC) are the most popular effective reversible method for preventing unwanted pregnancy. Nevertheless, thrombotic events related to CHC use remain a pressing issue not only because of the disease severity occurring mostly in young women, but also due to the lack of preventive measures. In 2019, a blood test called the “nAPCsr” (normalized Activated Protein C sensitivity ratio) was standardized following ICH guidelines and is showing promising results to become the biomarker for CHC-associated thrombotic risk evaluation.

**Objective:** To determine nAPCsr thresholds above which the thrombotic risk should be taken into consideration when assessing the suitability of a woman’s contraceptive method.

**Methods:** nAPCsr was assessed on plasma samples from women using either no contraception (n=197), estradiol(E2)-based CHC (n=7), estetrol(E4)-based CHC (n=34), ethinylestradiol(EE) 20/30 µg with levonogestrel (n=73), EE 20 µg with desogestrel, gestodene or drospirenone (n=101) and EE≥30µg with desogestrel, dienogest or cyproterone acetate (n=31). Threshold was determined as the 90th percentile of each subgroup.

**Results:** nAPCsr thresholds were 2.45 for non-users, 3.70 and 3.95 for women on E2-based and E4-based CHC, respectively; 5.70 for women on EE-levonorgestrel, 6.30 for women on EE20-desogestrel/gestodene/drospirenone and finally 6.48 for women on EE30-desogestrel/dienogest/cyproterone acetate.

**Discussion:** For women not on contraception, nAPCsr >2.45 indicate a procoagulable state, which could be attributable to a genetic mutation (e.g. FV Leiden), meaning the pill should be contraindicated as mentioned in the summary of product characteristics of CHC. For women already on CHCs, nAPCsr above thresholds indicate that benefit-risk balance of the contraceptive formulation used is questionable. Indeed, either the user has an undetected inherited mutation, or an over-response to the estrogen component. In both cases, this suggests switching towards a safer contraceptive method. For EE-based CHC users, the alternative could be E2- or E4-based CHC, in order to maintain a correct cycle control. As for women on E2 or E4-based CHC, the safer alternative would be to remove the estrogen and to switch towards a progestin-only contraceptive.

**Conclusion:** These thresholds, and more specifically the nAPCsr biomarker, could be used by gynecologists to identify at-risk patients in order to opt for the safest contraceptive therapy.

## Contraception

## Lower reporting of venous thromboembolisms events with natural estrogen-based COCs compared to ethinylestradiol containing pills: A disproportionality analysis of the Eudravigilance database

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### Objectives

Pharmacovigilance data analysis can accelerate the identification of drug-related safety signals or reassure on the safety profile. This study evaluates the VTE risk of newer COC formulations with natural estrogens, such as estradiol (E2) and estetrol (E4), through using data from the EudraVigilance database.

### Methods

We conducted a disproportionality reporting rate analysis of VTE events associated with various COC formulations by extracting individual case reports from EudraVigilance database up to July 28th, 2024. The study compared the proportionality reporting rate between natural estrogen-based COCs (E2 and E4) and conventional synthetic estrogen-based COCs (EE), with a comparison to EE-levonorgestrel (EE-LNG).

### Results

The analysis revealed that COCs containing natural estrogens exhibited significantly lower proportionality reporting rates for thrombotic events compared to EE-based COCs. Specifically, E4-drospirenone (E4-DRSP) showed the lowest proportionality reporting rate compared to EE-LNG (0.24 [95%CI, 0.17-0.33]) similar to progestin-only pills. EE-drospirenone (EE-DRSP) had the highest proportionality reporting rate compared to EE-LNG (2.66 [95%CI, 2.59–2.74]) suggesting an increased thrombotic risk.

### Conclusion

The study supports the safer thrombotic profile of natural estrogen-based COCs, particularly E2 and E4 formulations, over synthetic estrogen-based COCs containing EE. These findings support the hypothesis that E2- and E4-based pills are safer than EE-based pills, aligning with a shift towards safer contraceptive options in clinical practice.

## Contraception

## Estetrol/drospirenone safety in a cardiovascular risk population

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**Context:** Estetrol (E4) is a native estrogen recently introduced for clinical use with drospirenone (DRSP) as a combined oral contraceptive. E4 does not stimulate renal water retention through the renin-angiotensin-aldosterone system, a potentially important differentiator for blood pressure (BP) impact and overall cardiovascular (CV) risk.

**Objectives:** To evaluate CV safety outcomes in a population of E4 15mg/DRSP 3mg users with CV risk factors.

**Methods:** Secondary analysis of two open-label contraceptive phase-3 trials of E4/DRSP conducted in Europe and Russia from June 2016 through April 2018 and the United States and Canada from August 2016 through November 2018.

**Patients:** Healthy women 16-50 years. Exclusion criteria included body mass index (BMI) >35 kg/m<sup>2</sup>, baseline BP >140/90mmHg, and >35 years and smoking.

**Interventions:** E4/DRSP use for up to 13 cycles

**Main Outcome Measures:** BP and lipid parameter changes and discontinuation rates for adverse events in participants with and without CV risk factors (age >35 years, BMI ≥30 kg/m<sup>2</sup>, baseline BP ≥130/85mmHg, or smoking).

**Results:** Of 3417 participants, 1410 (41.3%) had ≥1 CV risk factors and 309 (9.0%) had ≥2 risk factors. Participants with baseline BP ≥130/85mmHg had significant decreases in systolic BP (-7.6±9.7mmHg, p<0.001) and diastolic BP (-4.0±7.7mmHg, p<0.001). Participants with normal baseline BP (<130/85mmHg) had a statistically but clinically insignificant increase in systolic BP (1.0±10.2mmHg, p<0.001) and diastolic BP (1.1±7.8mmHg, p<0.001). We observed statistically significant but clinically insignificant changes in lipid parameters for all risk groups. We found no difference in discontinuation for any adverse events in participants with and without CV risk factors. Six (0.18%) participants discontinued for a CV complaint including 4 with risk factors: 3 (0.09%) with hypertension (all had baseline BP ≥130/85mmHg and ≥1 additional risk factors) and one venous thrombosis (BP ≥130/85mmHg).

**Conclusions:** E4/DRSP did not worsen BP or lipid parameters among >1400 users with CV risk factors. E4/DRSP may have beneficial BP effects for patients with high-normal BP. The BP decrease in E4/DRSP users with high normal BP and the very low rate of hypertension in participants with baseline high normal BP plus an additional CV risk factor provides evidence to warrant clinical trials of E4/DRSP in patients with hypertension desiring contraception.

## Contraception

## Effect of E4/DRSP 15/3 mg on Hemostasis Parameters in Post-Menarchal Adolescents: A Phase 3 Multicentre Study

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**Context:** Estetrol 15 mg/drospirenone 3 mg (E4/DRSP) is a combined oral contraceptive (COC) known for its predictable bleeding patterns, low incidence of adverse events and its low impact on hemostasis parameters in adult population.

**Objective:** To assess the effect of E4/DRSP on hemostasis parameters in post-menarchal adolescents in a multicentre, open-label, phase 3 trial conducted in Europe.

**Methods:** Adolescents aged 12-17 years were enrolled in phase 3 study (NCT04792385) and received E4/DRSP 15/3 mg in a 24-active/4-placebo regimen for up to 6 cycles. Samples for the assessment of change from baseline in endogenous thrombin potential (ETP)-based APC resistance levels, expressed as normalized APC sensitivity ratio (nAPCsr) and Sex Hormone Binding Globulin (SHBG) were obtained at pre-treatment cycle and cycle 6. Sample analysis was performed by QUALiblood (Liege, BE). We summarized data using descriptive statistics for subjects in the Intent-To-Treat (ITT) population, which includes all enrolled participants who received at least one dose of the study medication, regardless of adherence or completion of the treatment.

**Patients:** Healthy post-menarchal adolescents aged 12-17 years.

**Intervention:** E4/DRSP 15/3 mg in a 24/4-day regimen for up to 6 consecutive 28-day cycles.

**Main Outcome Measure:** Changes from baseline (pre-treatment cycle) to cycle 6 (End of Treatment) in nAPCsr and SHBG.

**Results:** The study enrolled 112 subjects, of whom 105 received at least one dose of the study medication (mean [SD] age: 15.2 [1.21] years). nAPCsr data were available for 99 subjects at baseline and 85 at cycle 6 while SHBG data were available for 99 subjects at baseline and 96 at the cycle 6. Median nAPCsr increased from 1.6 at baseline to 2.7 at cycle 6, reflecting a 56.3% change from baseline. Median SHBG increased from 61.7 nmol/L at baseline to 115.5 nmol/L at cycle 6, representing a 79.8% change from baseline.

**Conclusions:** The use of E4/DRSP 15/3 mg in post-menarchal adolescents resulted in limited increases in nAPCsr and SHBG levels over 6 treatment cycles, consistent with findings in adult COC users. These findings support the safe use of E4/DRSP in this population which are in line with current evidence on the favorable profile of E4/DRSP on the risk of venous thromboembolism.

## Contraception

# Intrauterine Device Expulsion and Perforation among Women with Obesity

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**Context:** Intrauterine devices (IUDs) are highly effective with a good safety profile regardless of the user's body weight. Previous evidence suggested higher device-related complications rates with higher BMI. In addition, physiological changes in women with obesity exist.

**Objective:** To describe possible IUD complications (expulsion and perforation) with respect to BMI

**Method:** EURAS-LCS12 is an ongoing prospective, non-interventional Bayer-sponsored study in ten European countries. The following BMI categories were used: <18.5 kg/m<sup>2</sup> (underweight); ≥18.5 to <25 (normal weight); ≥25 to <30 (overweight); ≥30 to <35 (obese class I); ≥35 to <40 (class II); ≥40 (class III). Incidence proportion ratios (IPR) adjusted for key demographic and medical parameters were calculated using log-binomial regression.

**Main Outcome Measure(s):** Partial or complete expulsion, and perforation were reported by the women via regular follow-up questionnaires. Perforations were medically validated.

**Results:** Of 97,189 study participants, 3.1% (N=3,038) classified as underweight, 58.1% (N=56,493) as normal weight, 23.5% (N=22,866) as overweight, and 14.2% (N=13,824) as obese (class I: 9.4%, N=9,177; class II: 3.3%, N=3,169; class III: 1.5%, N=1,478). Overall, 1,546 complete, 1,743 partial expulsions, and 185 perforations have been detected at time of analysis. Incidence proportions (IP) of IUD expulsions increased with BMI category: Underweight: 28.3 (22.7–34.8); normal weight: 30.1 (28.7–31.5); overweight: 35.9 (33.5–38.4); obese: 45.2 (41.8–48.8)/1,000 WY. Similar trends were visible for both complete and partial expulsions separately. Incidence proportions of uterine perforations did not significantly vary by BMI. Compared to non-obese users, obesity was associated with an increased risk of complete expulsion (IPR 1.6; 95% CI 1.4–1.8) and partial expulsion (IPR 1.5; 95% CI 1.3–1.7), but not perforation (IPR 0.6; 95% CI 0.4–1.0). Within the obese category, IP did not differ significantly: IPR obesity class III vs. I: 1.2; 95% CI 0.9–1.7 and 1.2; 95% CI 0.9–1.7 for complete and partial expulsion, respectively. The risk of complete expulsion increased by 3.8% with each unit increase in BMI when the covariates remained unchanged.

**Conclusions:** Women with obesity experience higher rates of IUD expulsion, but not perforation. Increased intra-abdominal pressure or malposition of the IUD could be a driving factor for expulsion. Clinicians may choose to use this data when counseling patients.

## Contraception

## Heavy metal in womb: can copper intra-uterine device cause endometriosis?

Choucroun Danielle (LU)

### Context-Objectives

A 23-year-old lady receives a copper intra-uterine device (CIUD), menstruations are regular, painless. Ultrasound examination is normal. One year later, she is asymptomatic, ultrasound examination shows 5 cm unilateral long endometrioma. The lady asks if it is because of CIUD.

This work aims to investigate CIUD endometriosis link in women without endometriosis previous history.

### Methods

We carried out a literature review on PubMed and Google Scholar, any date, with the keywords CIUD and endometriosis, copper endocrine disruption, endocrine disruptor, metal estrogens, cuproptosis, endometriosis and endocrine disruptors. We introduced the keywords “CIUD and endometriosis” on Google.

### Results

The action of copper on uterine progesterone and estrogen receptors was described since 1975, showing a predominant effect of copper on progesterone receptors, “thus the biological effect of copper seems to be somewhat estrogenic”, Tamaya & All. The terms “endocrine disrupting chemicals (EDCs)” are officially coined in 1991. Interest in cellular toxicity of heavy metals, including those required in trace amounts for metabolism, appeared in the literature around 1995.

Endometriosis can be defined as a systemic estrogen-dependent inflammatory disease characterized by symptomatic or non-symptomatic active ectopic endometrial-similar tissue. Endometriosis was first described as a benign process in the early 20th century, at the time of the Industrial Revolution. Endometriosis EDCs links are now the focus of many scientific studies.

Cuproptosis is described as copper-induced cell death mechanism. Its involvement in endometriosis and several gynecological diseases is the topic of new research, raising concerns about CIUD.

Copper IUD was put on the market in the 1970s, in the context of unwanted pregnancies, women’s desire for emancipation and devastating consequences of clandestine abortions. Endometriosis was then an almost unknown disease, masked by the taboo of sex. Painful periods and infertility should be borne by the women.

### Conclusion

CIUD was launched in the 1970s, when endometriosis was almost ignored, as well as heavy metal effects on health.

We know now that at least two mechanisms could be involved in iatrogenic endometriosis due to CIUD: increased menstrual flow and copper toxicity due to massive, intimate contact with the endometrium.

New findings on copper toxicity call into question the CIUD balance benefit-risks.

## Contraception

## Real-life satisfaction of young women with estradiol valerate/ dienogest in prospective multicenter study in Russia

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### Context

Estradiol valerate/ dienogest (E2V/DNG) was investigated in the wealth of clinical and observational studies and has been shown to be effective for oral contraception with a favorable safety profile during long-term administration and for the treatment of heavy and/or prolonged menstrual bleeding in women without organic pathology who elect to use oral contraception. However, there is insufficient data for the young population in routine clinical practice in Russia.

### Objective

The objective of the study was to evaluate satisfaction of young women (18–35 years old), who requested contraception, with E2V/DNG over a 6-month period in real-world practice in Russia.

### Methods

This was a prospective multicenter observational study that assessed satisfaction of 504 women (average age is 27.8 years) with the contraceptive containing E2V/DNG. The characteristics of menstrual bleeding, sexual function, and women's decision to continue using the contraceptive were evaluated in two subgroups: in the presence and absence of heavy menstrual bleeding (HMB). The satisfaction of gynecologists with this method of contraception was also assessed.

### Results

98.4% of women and 100% of physicians were “very satisfied” or “satisfied” with this method of contraception, regardless of the presence or absence of HMB. There was a significant decrease in the intensity, duration of menstrual bleeding and pain, and in the frequency of intermenstrual bleeding compared with the baseline. Normalization of FSFI questionnaire scores was observed in the majority of women (89.7%), although initially these scores could indicate sexual dysfunction in almost half of the study population (46.0%). The contraceptive E2V/DNG was well tolerated by the patients, and the overall rate of adverse events was low – 7.1%. The majority of women (97.8%) decided to continue taking the medication after study completion.

### Conclusions

The results of the study showed high satisfaction with E2V/DNG among young Russian women and physicians, regardless of the presence or absence of HMB. The medication has a positive effect on characteristics of bleeding/cycle control and the quality of sexual function, therefore, the women demonstrated a high adherence to this method of contraception.



## Contraception

## Transforming Women's Health Education: Insights About Contraception from Skrinings.lv Digital Platform

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**Context:** Knowledge gaps and misconceptions about contraception lead to suboptimal use of effective birth control methods, affecting women's reproductive health (<https://doi.org/10.1080/13625187.2022.2096215>). Digital platforms present innovative opportunities for personalized education and health guidance to address these issues.

**Objective:** To assess contraceptive use, knowledge, and barriers among Latvian women using a digital contraception education module within the Skrinings.lv platform.

**Methods:** Skrinings.lv, a web-based women's health platform, launched a contraception test in November 2021. Women were recruited from the platform's user base and social media. Participants gave e-consent and completed an online survey about current contraceptive methods, experiences, and reasons for avoiding specific options. They received personalized educational reports on relevant health factors affecting contraceptive choices. Descriptive statistics were used to analyze the data.

**Patients:** Within two months, 1,568 women (mean age 27.0, range 14–68) participated, representing a sexually active population (96%) with 79% not planning pregnancy.

**Interventions:** The interactive contraception test assessed lifestyle, personal preferences, and contraceptive experiences, offering tailored recommendations for improving method suitability and understanding.

**Main Outcome Measures:** Prevalence of contraceptive methods used

Barriers to effective contraceptive choices

Considerations for future contraceptive methods

**Results:** Among women not planning to conceive, irregular condom use was most common (50.9%), followed by interrupted intercourse (40.2%), regular condom use (31.9%), and combined oral contraception (COC, 21.3%). Only 7.5% used intrauterine devices (IUDs). Barriers to COC included concerns about weight gain (55.1%), forgetfulness (53.8%), and hormones (40.8%). However, 42.9% of participants expressed interest in IUDs, indicating a key opportunity for intervention.

**Conclusions:** In Latvia, many women use unsafe contraceptive methods despite not planning pregnancy in the near future. The study highlighted women's fears, lack of knowledge, and barriers to using effective contraception, which can be addressed through accessible education. The personalized, digital approach of Skrinings.lv was valued as successful and convenient. The platform effectively combines personalized education with real-world data, bridging knowledge gaps and overcoming barriers to better contraceptive use.

## Contraception

## Understanding acceptance of Depot Medroxyprogesterone Acetate-Subcutaneous (DMPA-SC): insights from Central India

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**Context** The adoption of depot medroxyprogesterone acetate-subcutaneous (DMPA-SC), a self-administered injectable contraceptive, is limited despite its potential to enhance contraceptive autonomy. This study investigates factors influencing its acceptance among women in central India to improve promotion strategies.

**Objectives** To assess the awareness, acceptance, and factors influencing the preference for DMPA-SC among married women of reproductive age (21–45 years) in the urban field practice area of a tertiary care hospital in central India.

**Methods** A cross-sectional observational study was conducted from June 2020 to June 2023, involving 320 married women aged 21–45. Data were collected through face-to-face interviews using a pre-validated questionnaire. The questionnaire covered demographic details, obstetric history, DMPA awareness, and DMPA-SC preferences. Data analysis included descriptive statistics, chi-square tests, and logistic regression using SPSS version 22. Ethical approval and informed consent were obtained.

**Patients** Participants were predominantly rural residents (57.8%), with most being unemployed (55.3%) and 53.4% having completed higher education.

**Intervention** The study explored awareness-raising strategies and willingness to adopt DMPA-SC as a self-administered contraceptive option.

**Main Outcome Measure** Primary outcomes were awareness, factors influencing preference, and willingness to self-administer DMPA-SC.

**Results** While 90% were aware of DMPA-IM, none were familiar with DMPA-SC. Despite this, 78% expressed willingness to learn about it, and 62.5% were open to self-administration. Younger women (21–30 years), those with higher education levels, and employed participants were more likely to prefer DMPA-SC. Key advantages included time savings (37.5%), reduced travel costs (18.8%), and fewer hospital visits (15.6%). Fear of injections (25%) and side effect concerns (31.3%) were major barriers.

**Conclusions** Despite low awareness, there is a strong willingness to adopt DMPA-SC. Younger age, education, and employment status significantly influenced preferences. Promoting DMPA-SC through education and awareness campaigns can enhance contraceptive access and autonomy, especially during healthcare access constraints.

## Contraception

## Depomedroxyprogesterone acetate impact on mifepristone action during medication abortion

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**Context:** Studies have shown that simultaneous administration of depomedroxyprogesterone acetate (DMPA) with mifepristone for patients having a mifepristone-misoprostol medication abortion will decrease medication abortion efficacy; however, these studies but did not discriminate potential impact by gestational age.

**Objectives:** To evaluate outcomes by gestational duration in patients who did and did not receive DMPA at the same time as mifepristone for mifepristone-misoprostol medication abortion and estimate the impact of DMPA on mifepristone action.

**Methods:** 1) Secondary analysis of a retrospective study; 2) Assessment available literature to estimate misoprostol-alone abortion rates for calculating DMPA impact on medication abortion outcomes.

**Patients:** 845 women using mifepristone 200 mg orally and misoprostol 800 mcg buccally for medication abortion who did and did not receive DMPA at the time of mifepristone use.

**Interventions:** DMPA administration at the time of mifepristone use.

**Main Outcomes:** Ongoing pregnancy rates overall and by gestational duration group and impact of receiving DMPA at the same time as mifepristone on these outcomes.

**Results:** More than half of the patients in each group had pregnancies  $\leq 49$  days gestation (no DMPA: 432/704 [61.4%]; DMPA 73/141 [51.8%],  $p=0.04$ ); patients who chose DMPA were more likely to have pregnancies  $>49$  days gestation. Ongoing pregnancy rates increased with advancing gestational duration both with ( $p=0.0005$ ) and without ( $p=0.04$ ) concomitant DMPA administration. However, the numbers in each gestational duration cohort were relatively small such that no individual gestational duration group demonstrated a significant difference in outcomes between patients that did and did not receive DMPA. Based on an expected 74% abortion rate with misoprostol alone, concomitant DMPA with mifepristone increased the likelihood of an ongoing pregnancy by 20.9% overall but only by about 8% for patients with pregnancies  $\leq 49$  days gestation.

**Conclusions:** Ongoing pregnancy as the reason for medication abortion failure occurs in patients that do and do not receive DMPA at the time of mifepristone administration. DMPA may impact mifepristone variably by gestational duration, but larger studies are needed.

Gynecological oncology, HPV

## The Pilot Study Results: BRCA1/2 Genetic Population Screening

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**Introduction** Approximately 80% of BRCA1/2 positive breast and ovarian cancers are diagnosed at stages II-IV. Despite modern treatments, the morbidity, mortality, and associated costs remain significant. Early identification of BRCA1/2 carriers is critical to improving outcomes for individuals at risk of hereditary breast and ovarian cancer. This pilot study evaluates the feasibility of implementing a BRCA1/2 population screening program in Latvia.

**Material and Methods** The Institute of Oncology and Molecular Genetics at Riga Stradins University (RSU), in collaboration with private companies, conducted this pilot study using the digital engagement and consent management tool “Longenes Engage.” Women who consented to participate in breast cancer risk assessment projects on “skrinings.lv” were invited via email, including an email campaign by “Lindex.” Eligible participants (females aged 25-59 years, with no personal cancer history) who provided informed consent were included in the pilot. Saliva samples were collected at nearby laboratory and tested at RSU for BRCA1/2 SNV and CNV. Negative results were communicated digitally, while individuals with detected pathogenic variants were contacted by phone, referred to medical geneticists, and enrolled in the surveillance program.

**Results** In total, 3,438 invitation emails were sent. Of these, 49% were opened, and 54% of recipients who opened the email visited the digital platform for project details. Among platform visitors, 79% provided informed consent, primarily via digital signature (86%). Saliva samples were collected by 67% (490), yielding an overall response rate of 14.26% for this initial phase. Additionally, three gynecological practices directly invited women to participate, with a positive response from 49 women. Among the 539 analyzed cases, BRCA1/2 pathogenic variants were detected in 8, resulting in a detection rate of 1.49%.

**Conclusions** The study demonstrates that BRCA1/2 population screening via digital communication channels is feasible. Findings confirm a high BRCA1/2 pathogenic variants frequency in Latvia, although screening methodology requires further refinement. The study was supported by RSU funds, “Lindex,” donation, “Longenes,” and “E. Gulbja Laboratory,” which provided in-kind contributions.

Gynecological oncology, HPV

## Unexpected Malignancy: A Case of High-Grade Uterine Sarcoma in Postmenopause

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**Context:** Uterine sarcomas are rare tumors, accounting for less than 1% of gynecological malignancies. This case describes the atypical progression of a high-grade endometrial stromal sarcoma in a postmenopausal woman, initially diagnosed as a benign lesion.

**Objective:** To demonstrate the diagnostic and therapeutic journey of a high-grade uterine sarcoma, highlighting the importance of suspecting malignancy in large uterine masses.

**Methods:** A 65-year-old woman, nulligravida with no coitarche, postmenopausal since age 57, presented with postmenopausal bleeding and a large uterine mass. Initial hysteroscopic biopsy suggested a leiomyoma with ischemic necrosis. In 2024, recurrence with exteriorization of a necrotic mass (>10 cm) led to total laparotomic hysterectomy with bilateral salpingo-oophorectomy. Histopathological and immunohistochemical analyses were performed.

**Patient(s):** A 65-year-old woman with no significant gynecological or personal medical history, except for hypertension and dyslipidemia.

**Intervention(s):** Diagnostic and therapeutic hysteroscopies, total laparotomic hysterectomy with bilateral salpingo-oophorectomy, and exploratory laparotomy.

**Main Outcome Measure(s):** Histopathological and immunohistochemical findings confirming high-grade endometrial stromal sarcoma.

**Result(s):** The surgical specimen revealed a 17 cm neoplasm composed of fusiform and epithelioid cells with marked atypia, frequent mitoses (5/mm<sup>2</sup>), and a proliferative index of 40%. Immunohistochemistry: CD10+, vimentin+, hormonal receptor-negative. Staging was IB. Despite an initial CT showing no metastases, progression was evidenced by inguinal lymphadenopathy and carcinomatosis during exploratory laparotomy, with no neoplastic tissue confirmed in subsequent biopsies.

**Conclusions:** This case emphasizes the importance of thorough follow-up and a multidisciplinary approach in patients with large uterine masses, even when initial findings suggest benignity. The rapid and atypical progression underscores the need for early diagnosis and tailored treatment in high-grade uterine sarcomas.

Gynecological oncology, HPV

## Endometrial Cancer in Albania: Epidemiological Trends and Challenges in Management

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### Background:

Endometrial cancer is the most common gynecologic malignancy globally, with increasing incidence linked to lifestyle and demographic changes. In Albania, the lack of comprehensive data on the disease's epidemiology and treatment underscores the importance of focused research and enhanced healthcare approaches.

### Objectives:

This study investigates the incidence, risk factors, clinical presentation, and management challenges of endometrial cancer in Albania, aiming to identify gaps in care and propose strategies for improved outcomes.

### Methods:

A retrospective review of medical records from Queen Geraldine University Hospital was conducted for cases diagnosed with endometrial cancer between 2017 and 2023. Data collected included patient demographics, risk factors (obesity, diabetes, hypertension, reproductive history), stage at diagnosis, treatment modalities, and survival outcomes. Barriers in diagnostic and treatment pathways were examined through interviews with medical professionals.

### Results:

Among 300 analyzed cases, 75% were diagnosed at early stages (I-II), with the majority presenting postmenopausal bleeding as the first symptom. However, delayed presentation was common in rural areas, leading to advanced-stage diagnoses (III-IV) in 25% of cases. Obesity (60%) and diabetes (40%) were the most prevalent risk factors. Surgical intervention was the predominant treatment, yet access to adjunct therapies like radiotherapy and chemotherapy was limited. Deficiencies in standardized diagnostic frameworks and training in minimally invasive procedures further complicated management.

### Conclusions:

Endometrial cancer in Albania predominantly affects postmenopausal women with significant metabolic comorbidities. Early diagnosis is achievable in urban areas, but rural disparities remain a concern. Expanding access to specialized oncology care, creating unified treatment protocols, and improving training in advanced techniques are crucial. Public awareness, preventive initiatives, and healthcare infrastructure development are essential to address the growing burden of endometrial cancer.

Keywords: Endometrial cancer, Albania, Epidemiology, Risk factors, Healthcare disparities, Oncologic management

Gynecological oncology, HPV

## The Predictive Role Of The Node-Rads Scoring System In Evaluating Lymph Node Involvement In Patients With Endometrial Cancer

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**Context:** Lymph node staging is essential for therapeutic decision-making in patients with endometrial cancer (EC). Recently, Node-RADS score was introduced as a standardized radiological assessment of lymph node invasion (LNI).

**Objective:** The present study evaluates the diagnostic performance of the Node-RADS score in predicting lymph node invasion (LNI) in endometrial cancer and introduces the integrated preoperative nodal score, combining radiological and histological parameters.

**Methods:** This pilot study relied on a prospective database of patients with EC treated at Sapienza University of Rome. The nodal status was correlated with Node-Rads score based on blinded evaluation of MRI. Subsequently, the Node-Rads score was integrated with other preoperative data that could predict LNI to develop an accurate prediction model for stratifying patients into different risk classes. The nodal preoperative score ranges from 2 to 9 and the variables considered were: Node-RADS score; myometrial invasion assessed by MRI; and tumor grading.

**Patients:** Patients diagnosed with EC who underwent a preoperative MRI and had at least one lymph node removed during surgery, were included.

**Intervention:** All patients underwent preoperative MRI evaluated with Node-RADS criteria and subsequent lymph node dissection. The integrated preoperative nodal score was calculated based on imaging and biopsy-derived data.

**Main Outcome Measure:** Primary outcomes included the correlation of Node-RADS and integrated preoperative nodal score with LNI, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).

**Results:** Overall, 51 EC patients were eligible for this study with an overall LNI rate of 17.6%. Based on blinded MRI images evaluation Node-RADS score was found to predict LNI (OR 3.32, 95%CI 1.47-7.50,  $p = 0.004$ ). Node-RADS exhibited a moderate AUC (0.741). A Node-RADS  $> 3$  could be considered an effective cut-off value showing balanced values of sensitivity (66.7%) and specificity (73.8%). Furthermore, the integrated preoperative nodal score demonstrated an increased diagnostic performance with a three-fold increase in the risk of LNI (OR 2.973, 95% CI 1.531-5.773,  $p = 0.001$ ) and moderate-high AUC (0.881).

**Conclusion:** Node-RADS score exhibits a moderate overall accuracy for identifying LNI, with significant improvement when was incorporated into LNI prediction models. These results need to be validated on larger cohort.

Gynecological oncology, HPV

## Predictive Models Integrating Hematological Markers to Optimize Surgical Decisions in Uterine Mass Management

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**Context** Differentiating uterine sarcomas from leiomyomas preoperatively is a critical challenge in gynecological practice. Identifying reliable clinical and biochemical markers can aid in guiding clinical decisions and avoiding unnecessary surgeries.

**Objective** To evaluate the effectiveness of the neutrophil-to-lymphocyte ratio (NLR) and other clinical and biochemical parameters in distinguishing uterine sarcomas from leiomyomas, and to develop predictive scoring systems—Sapienza Scores 1 and 2—to aid in this differentiation.

**Methods** A retrospective analysis was conducted on medical records of patients treated at the Surgical and Oncological Gynecology Unit of Policlinico Umberto I in Rome between February 2018 and April 2023. Two predictive scores were developed: Sapienza Score 1 (incorporating age, abnormal uterine bleeding [AUB], NLR, and PLT) and Sapienza Score 2 (including the aforementioned variables plus albumin and CRP). Each variable was assigned a score of 1; total scores  $\geq 2$  for Score 1 and  $\geq 3$  for Score 2 were considered positive.

**Patient(s)** Fifty-seven patients were included in the study: 19 with histologically confirmed uterine sarcomas and 38 with uterine leiomyomas matched using propensity score analysis.

**Intervention(s)** Analysis of clinical characteristics and preoperative laboratory parameters, including NLR, leukocyte count, neutrophil count, PLT, CRP, hemoglobin, and albumin, was performed. Sapienza Scores 1 and 2 were developed to predict the likelihood of uterine sarcoma based on these variables.

**Main Outcome Measure(s)** The primary outcomes were the sensitivity, specificity, and overall accuracy of Sapienza Scores 1 and 2 in predicting uterine sarcoma.

**Result(s)** Patients with uterine sarcomas exhibited significantly higher preoperative levels of leukocytes, neutrophils, PLT, CRP, and NLR, along with lower hemoglobin and albumin levels compared to those with leiomyomas ( $P < 0.05$  for all comparisons). Univariate analysis identified age, AUB, NLR, PLT, albumin, and CRP as significant predictors of uterine sarcoma. Sapienza Score 1 demonstrated a prediction accuracy of 75.9%, while Sapienza Score 2 achieved an accuracy of 88%.

### Conclusions

Elevated NLR, along with specific parameters, can effectively aid in the preoperative differentiation between uterine sarcomas and leiomyomas. The proposed Sapienza Scores 1 and 2 offer promising predictive value, potentially guiding clinical decision-making and reducing unnecessary surgical interventions.



Gynecological oncology, HPV

## Pembrolizumab in Advanced Vulvar Cancer: Efficacy, Safety, and Potential for Improved Survival

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### Introduction

Vulvar cancer is a rare form of malignancy that primarily affects women in their post-menopausal years. While early-stage vulvar cancer has a favorable prognosis, advanced or recurrent cases present limited therapeutic options, with immune checkpoint inhibitors emerging as promising treatment modalities.

### Objective

Pembrolizumab, an immune checkpoint inhibitor targeting the PD-1/PD-L1 pathway, has shown potential in various solid tumors. We investigated the efficacy and safety of pembrolizumab in patients with advanced vulvar cancer.

### Materials and Methods

We conducted a systematic review and meta-analysis including two single-arm studies involving 119 patients. The pooled objective response rate (ORR) was calculated using a 95% confidence interval (CI), and heterogeneity was evaluated using  $I^2$  and the Cochrane  $Q$   $\chi^2$  statistics.

### Results

The overall ORR was 10% (95% CI: 0.00-0.84) in the entire study population and 9% (95% CI: 0.00-0.89) in the PD-L1 positive subgroup. In the intention-to-treat (ITT) population, 31% (95% CI: 0.04-0.85) of patients displayed any clinical benefit, including complete response, partial response, or stable disease. Progression-free survival (PFS) in the ITT population at six months was 19% (95% CI: 0.01-0.82), decreasing to 9% (95% CI: 0.00-0.85) at 12 months. Overall survival (OS) in the ITT population at six months was 48% (95% CI: 0.08-0.90), declining to 33% (95% CI: 0.04-0.85) at 12 months. No statistically significant heterogeneity was observed in PFS and OS analyses.

### Conclusions:

The results of this study suggest that one-third of women with advanced or recurrent vulvar cancer may benefit from pembrolizumab treatment, irrespective of PD-L1 status. Pembrolizumab therapy may contribute to tumor response and prolonged survival in patients with advanced, recurrent, or metastatic vulvar cancer, particularly when administered as second or later-line treatment. The findings support the consideration of pembrolizumab as a potential therapeutic option for this patient population. However, further research, including randomized controlled trials, is necessary to validate these results and establish pembrolizumab's role in vulvar cancer treatment.

The findings support current therapeutic approaches advocated by organizations such as NCCN and ESGO. Additional data from randomized controlled trials are crucial to validate these results further.

### References:

Schwab R, Schiestl LJ, et al. Front Oncol. 2024 Feb;14:1352975.

Gynecological oncology, HPV

## Study on the quality of life of patients with Human Papillomavirus infection: preliminary results.

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**Objective:** The psychological distress and behavioral changes associated with diagnosis of High-Risk Human Papillomavirus (HR-HPV) infection emphasize the need to understand its multidimensional impact. This study aims to assess the impact of HR-HPV infection on women's quality of life (QoL).

**Methods:** This observational, multicenter, cross-sectional study includes women aged  $\geq 18$  years diagnosed with HR-HPV, regardless of prior vaccination, and categorized as having no lesions, low-grade lesions, or high-grade lesions.

Data were collected in Spain using the validated HPV-Quality-of-Life (HPV-QoL) questionnaire<sup>1</sup>, comprising 15 questions across four domains: general well-being (psychological and social), sexuality, concerns about infecting others, and health consequences. Responses were scored on a scale from 1 to 5 (total range: 15-75) and were transformed into a 0–100 scale, for intuitive interpretation. QoL was categorized into low (0–49), medium (50–74), and high (75–100) QoL. The Ethics Committee approved the study protocol. All patients were required to provide informed consent.

**Results:** The preliminary analysis included 733 patients, with a mean age of 41.14 years (range: 18–74). The mean QoL score was 40.10, with most patients reporting low QoL (67.8%), followed by medium (26.8%) and high QoL (5.4%). There were no significant differences in QoL based on age or lesion grade.

Psychological well-being was notably affected: 64% reported feeling more nervous and insecure since diagnosis, and 51% stated that HR-HPV had changed their lives. Concerns about health consequences were prevalent, with 89.8% fearing cancer, 90.5% worrying about persistent infection, and 81.7% feeling anxious about lesion recovery. Concerns about contagion were high, with 80.2% worried about infecting their partner.

Social well-being appeared less affected, as 62.2% reported no interference in daily or social activities. Sexual health was moderately impacted: 45% reported reduced sexual desire, and 22.9% and 25.5% reported discomfort or reduced satisfaction in sexual activity, respectively.

**Conclusions:** HR-HPV infection significantly affects patients' QoL, particularly in psychological well-being and concerns about health consequences. These results highlight the importance of addressing these issues when managing HR-HPV positive patients to ensure comprehensive care.

1. Coronado, P.J. et al. Arch Gynecol Obstet. 2022 Oct;306(4):1085-1100

Gynecological oncology, HPV

## Efficacy of a multi-ingredient *Coriolus versicolor*-based vaginal gel on high-risk HPV clearance: final results from the PALOMA 2 clinical trial.

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**Context:** High risk (HR)-HPV infection is a critical precursor to cervical cancer.

**Objective:** The PALOMA 2 Clinical Trial was designed to assess the efficacy of a *Coriolus versicolor*-based vaginal gel (Papilocare®) in facilitating HR-HPV clearance as one of the secondary endpoints.

**Methods:** Randomised, multi-centre, prospective, open-label, parallel-group, clinical trial with a watchful-waiting control group.

**Patients:** Unvaccinated HR-HPV positive women between 30-65-year-old, with ASCUS/LSIL cytology and concordant colposcopy. Intervention: Patients were randomised (1:1:1:1) into 4 groups: A) Standard Papilocare® regimen: once daily for one month, followed by every other day for five months; B) Intensive Papilocare® regimen: once daily for three months, followed by every other day for three months; C) Very Intensive Papilocare® regimen: once daily for six months; D) Control group: watchful waiting approach.

**Main outcome measure:** The study assessed HR-HPV clearance after six months, categorised as total clearance (negative HR-HPV test or no detectable baseline genotypes) or partial clearance (disappearance of at least one genotype, along with normal cytology and concordant colposcopy). Ethical approval was obtained, and all participants gave informed consent. Results of arm A, B and C vs D on HR-HPV clearance after 6 months of treatment are presented.

**Results:** Of the 164 randomized patients, 124 with a mean age of 41.13 years were evaluated for efficacy. Of these, 46.8% were current or former smokers with no significant differences between groups. From the 109 patients (A= 26; B= 26; C= 29; D= 28) who completed the 6-month treatment, 53.8% (A), 88.5% (B), 75.9% (C) vs 46.4% (D) obtained HR-HPV clearance ( $p_{AvsD}= 0.5860$ ,  $p_{BvsD}= 0.0011$  and  $p_{CvsD}= 0.0225$ ).

**Conclusions:** Our findings indicate that Papilocare® vaginal gel, particularly when administered under the intensive regimen, significantly enhances HR-HPV clearance compared to watchful waiting approach. These results highlight Papilocare® vaginal gel as proactive management option for HR-HPV positive women with low-grade cervical lesions.

Gynecological oncology, HPV

## Efficacy of a multi-ingredient *Coriolus versicolor*-based vaginal gel in HR-HPV clearance: preliminary pooled results from the PALOMA 1 and PALOMA 2 clinical trials.

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**Context:** PALOMA 1 was the inaugural clinical trial demonstrating efficacy of a *Coriolus versicolor*-based vaginal gel (Papilocare®) in repairing HPV-dependent low-grade cervical lesions.

**Objective:** Based on this, PALOMA 2 also included HR-HPV clearance as a secondary endpoint, aiming to confirm if the intensive regimen can increase HR-HPV clearance rates.

**Methods:** Randomised, multi-centre, prospective, open-label, parallel-group, clinical trials with a watchful-waiting control group.

**Patients:** Unvaccinated HR-HPV positive women aged between 30-65 with ASCUS/LSIL cytology and concordant colposcopy  
Intervention: Patients were randomized (1:1:1) into 3 groups: A) Standard Papilocare® posology: once daily for one month, followed by every other day for five months; B) Intensive Papilocare® posology: once daily for three months, followed by every other day for three months; C) Control group: watchful waiting approach.

**Main Outcome Measures:** This analysis presents pooled results focusing on HR-HPV clearance at six months for the intensive regimen versus control. HPV clearance was considered as total (negative HPV test or the disappearance of all species detected at baseline) or partial clearance (disappearance of at least one HPV genotype present at baseline, along with normal cytology and concordant colposcopy observations). All patients signed informed consent, and studies were approved by centralized IRBs.

**Results:** Data from 101 patients has been evaluated, 48 from Papilocare® group (PALOMA 1= 22; PALOMA 2= 26) and 53 patients from the control group (PALOMA 1= 25; PALOMA 2= 28). Significant increase of HR-HPV clearance was shown in Papilocare® group vs control group (85.4% vs 43.4%,  $p=0.0024$ ). The sub-group of patients positive for HPV 16 and/or 18 and/or 31 at baseline also showed statistically significant results: 82.6% in the Papilocare® group vs 37.0% in the control group experienced HPV clearance ( $p=0.0328$ ).

**Conclusion:** These findings suggest that the intensive regimen of Papilocare® significantly enhances HR-HPV clearance, highlighting it as a valuable clinical tool for managing HR-HPV infections compared to watchful waiting approach.

Gynecological oncology, HPV

## Empowering Prevention: Leveraging Digital Technology to Boost Cervical Cancer Screening and HPV Vaccinations in Latvia

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**Context:** Cervical cancer is a preventable yet significant public health issue in Latvia. While HPV vaccination and screening programs exist, adult vaccination rates remain low, and screening participation is below the 70% target needed for cervical cancer elimination (1,2). Digital platforms present an opportunity to enhance preventive healthcare engagement and identify public knowledge gaps and barriers.

**Objectives:** This initiative aims to propose and evaluate a scalable digital approach to enhance preventive healthcare behaviors, including HPV vaccination and cervical cancer screening, as a model for public health strategies. Enhance knowledge and health literacy on cervical cancer risk factors, HPV vaccination, and screening by delivering evidence-based, personalized educational content. Identify barriers and facilitators to HPV vaccination and screening uptake by gathering data on knowledge gaps, attitudes, and behavioral trends among Latvian women.

**Methods:** The survey questions, personalized education content and actionable recommendations are developed together with clinicians, public health experts and digital health experts. The survey will be added to Skrinings.lv, a web-based women's health platform. The initiative will be available to the public in early 2025. Participants will be recruited via email invitations and social media promotion. Dynamic digital consent will be obtained, and users will complete surveys assessing knowledge, attitudes, and barriers. The module will provide users with a personalized risk assessments based on user data; educational content on cervical cancer, HPV vaccination, and screenings; actionable recommendations such as booking a vaccination appointment.

**Patients:** The target population includes women aged 18-45 in Latvia.

**Main Outcome Measures:** User engagement metrics (e.g., participation rates, time spent on content). Number of users booking HPV vaccinations. Platform usability and perceived impact on health decisions.

**Results:** The initiative aims to engage 10,000 women through risk assessments and tailored recommendations.

**Conclusion:** This digital intervention has the potential to significantly enhance HPV vaccination coverage and preventive healthcare engagement in Latvia. By fostering a culture of prevention and gathering actionable insights on user behaviors, the initiative demonstrates a scalable model for digital public health strategies, contributing to cervical cancer prevention goals.

Poster session



## POSTER SESSION

## P2. Enhanced myometrial vascularity after termination of pregnancy.

Cantalejo Barrutieta Uxune (ES), Fariñas Dovao Aida (ES), Gondra Zarain Jone (ES), Navarro Guillén Alicia (ES), Pérez Fernández Isabel (ES)

Hospital Universitario de Alava

**Context:** Enhanced myometrial vascularity (EMV) has been described in only a limited number of cases in the literature. However, understanding of this condition has significantly advanced over time, clarifying an entity that was initially a source of considerable confusion.

**Objective:** The objective is to summarize the key elements for an accurate diagnosis and appropriate treatment of this condition.

**Methods:** Case report followed by literature review.

**Patient(s):** 37 year-old patient in her second pregnancy, with a confirmed diagnose of trisomy 21, decided to perform an elective abortion in week 12+5.

She attended the emergency department for persistent bleeding during the following month.

**Intervention(s):** The ultrasound scan revealed a heterogeneous area in the endometrium that continued throughout the myometrial thickness and which has a high doppler uptake.

In agreement with the patient, analytical (BHCG) and ultrasound monitoring is initiated.

During follow-up, BHCG levels and the ultrasound findings gradually decreased, resolving completely after 16 weeks.

**Main outcome measure:** EMV is a transient phenomenon predominantly associated with retained products of conception (RPOC) during the puerperium or following an abortion. It is believed to result from disturbances in placentation or delayed obliteration of placental vessels after the termination of pregnancy. The most common clinical presentation is persistent vaginal bleeding.

On ultrasound, it appears as endometrial tissue extending into the myometrium, characterized by irregular, hypoechogenic, tubular areas. Doppler imaging typically reveals striking vascular uptake with high flow, which may initially mimic the appearance of a uterine arteriovenous malformation. This constitutes the most critical differential diagnosis.

As a self-limiting condition, asymptomatic patients can be managed with analytical and ultrasound monitoring. If RPOC is suspected, treatment options include the administration of misoprostol, uterine curettage, or hysteroscopy.

In cases of heavy bleeding, more invasive interventions, such as arterial embolization or even hysterectomy, may be necessary.

**Conclusion(s):** It is important to be aware of EMV as its incidence is likely to increase with the routine use of ultrasound imaging. Recognizing the timing and characteristics of this condition enables conservative management, potentially avoiding the need for more aggressive interventions at the outset.

## POSTER SESSION

## P3. Is sentinel lymph node biopsy (SLNB) safe for breast cancer during pregnancy (PrBC)?

Amant Frédéric (BE), Bothou Anastasia (GR), Diamanti Athina (GR), Dinas Konstantinos (GR), Margioulas-Siarkou Chrysoula (GR), Margioulas-Siarkou Georgia (GR), Petousis Stamatios (GR), Sotiriadis Alexandros (GR), Zervoudis Stefanos (GR)

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**Background:** Given that many treatment options cannot be used during pregnancy due to potential harm to the fetus, pregnant patients with breast cancer (PrBC) may undergo significantly different therapy than the general population. Potential risks associated with sentinel lymph node biopsy (SLNB) in pregnant patients include radiation exposure harm to the fetus, potential teratogenic effects of blue dyes, and maternal allergy to isosulfan.

**Objective:** The main objective of the present systematic review is to summarize and present current knowledge and up-to-date evidence about the safety and efficacy of SLNB in PrBC.

**Methods:** The databases MEDLINE, Google Scholar, and UpToDate were searched. Articles examining the efficacy and safety of SLNB in PrBC patients qualified for inclusion in this review.

**Results:** This study contained 63 articles in total that satisfied the inclusion criteria. The results of the analysis showed that 47 articles were strongly in favor of doing SLNB in PrBC, 4 were partially in favor, 10 were strongly against, and 2 were partially against. Subcategorization, according to research type, revealed that the majority of studies in favor had stronger evidence than those against. Additionally, there were 12 studies reporting on outcomes. Overall, 382 women with PrBC had SLNB procedures. For 237 cases, complete data were available. While the total rate of neonatal complications was 3.4%, the overall live birth rate was 95.8%. There were no reports of adverse effects on mothers, anaphylactic reactions, maternal deaths, stillbirths, or neonatal deaths (0%).

**Conclusions:** SLNB seems to be a safe and effective technique for PrBC.



## POSTER SESSION

## P4. Metaplastic breast cancer: a difficult and unexpected diagnosis

Biaín Ciganda Ana (ES), Euba Larrinaga Inés (ES), Gondra Zarain Jone (ES), Pérez Fernández Isabel (ES), Sifre Ruiz Anna (ES)

Hospital Universitario de Alava

**Context:** Metaplastic breast tumors are a very aggressive group of breast cancer. Their low incidence, heterogeneity, and limited studies make their diagnosis quite challenging.

**Objective(s):** The objective is to remember that there are other subtypes of breast cancer, which, although less frequent, do have a worse prognosis.

**Methods:** Case report followed by literature review.

**Patient(s):** 60-year-old woman, with no relevant medical history, presenting to the clinic after self-detecting a lump in the left breast. On examination, a 2 cm, well-defined, mobile nodule is palpated. Priority imaging studies are requested. A month later, examination reveals a regular 7 cm mass, of medium consistency.

Imaging results describe: a solid mass with heterogeneous content, well-defined. No axillary lymph node involvement is detected.

Pathological anatomy finds: malignant mesenchymal tumor requiring further identification.

**Intervention(s):** Left simple mastectomy and intraoperative sentinel lymph node biopsy of the left axilla are performed. Final pathological results are: Metaplastic breast cancer, spindle cell carcinoma subtype, with no lymph node involvement.

**Main outcome measure(s):** Metaplastic breast cancer represents a heterogeneous group of invasive malignancies. Typically comprises at least two distinct cellular populations: epithelial and mesenchymal. It is classified as a triple-negative tumor and it is generally HER2-negative as well. It commonly presents in postmenopausal patients as a rapidly growing breast mass. Risk factors could be prior use of tamoxifen, trauma, radiotherapy or chronic lymphedema. Imaging studies frequently describe well-defined solid tumors characterized by heterogeneous echogenicity, often with cystic components. Despite their highly aggressive nature, these tumors rarely exhibit positive lymph nodes at the time of diagnosis (only 1–20% of cases). Surgical management involves either breast-conserving surgery or simple total mastectomy. Sentinel lymph node biopsy or axillary lymphadenectomy is performed when lymph node involvement is identified.

No universal consensus is established regarding adjuvant therapy, but generally involves a combination of radiotherapy/chemotherapy. Tumor size and clear surgical margins remain the most critical prognostic factor.

**Conclusion:** Despite their low incidence, it is important to remember the diagnostic potential of these subtypes of breast cancer because of their high morbidity and mortality.

## POSTER SESSION

## P5. Invasive ductal carcinoma of the breast in a male patient: a case report

Braga Marcella (BR), Mattos Gabriela (BR), Romeiro Rayane (BR), Sá Maria Luiza (BR), Seixas João Alfredo (BR), Silveira Filomena (BR)

Centro Universitário de Valença

**Introduction:** Although rare, the number of male breast cancer cases has been increasing in recent years. Despite the lower amount of breast tissue in men—which theoretically should facilitate the early detection of any abnormalities—the lack of awareness about the disease and the absence of screening protocols contribute to late diagnoses.

**Case report:** A 66-year-old male patient from Valença, Rio de Janeiro, with a medical history of hypothyroidism, peripheral arterial disease, high-response atrial fibrillation, and chronic kidney disease, was admitted to the hospital due to a ruptured aneurysm and underwent surgical treatment. During hospitalization for aneurysm repair, a palpable nodule was identified in the retroareolar region of the left breast, approximately 3 cm in size. A chest CT scan revealed a nodular formation in the retroareolar region of the left breast with interspersed calcifications, measuring approximately 3.5 cm x 1.5 cm, along with prominent lymph nodes in the mediastinal and hilar chains. Additionally, a breast ultrasound showed a heterogeneous expansive lesion (hypoechoic with interspersed calcifications) in the left breast, measuring about 2.6 cm x 1.5 cm, located in the retroareolar region (BI-RADS 0). Finally, an excisional biopsy of the nodule was performed, which resulted in a diagnosis of invasive ductal carcinoma of the breast, grade II Nottingham score (tubular formation: 3, nuclear pleomorphism: 3, mitotic index: 1), with no evidence of angiolymphatic or perineural invasion. Thus, the initial suspicion of breast malignancy was confirmed. The patient passed away, from causes unrelated to cancer, before appropriate treatment could be initiated.

**Comments:** Male breast cancer, although diagnosed and treated using similar protocols to those for female breast cancer, has its own particularities and is often overlooked by both healthcare professionals and patients, leading to late diagnosis. Therefore, regarding health improvements, the presented case report is of great importance as it highlights one of the main histological types of cancer in men, contributing to the scientific body of knowledge. This, in turn, raises awareness and understanding of this pathology, encouraging healthcare professionals to consider it as a potential diagnosis, ultimately improving patient survival outcomes.

## POSTER SESSION

## P6. Ease of intrauterine device insertion - Does Body Mass Index make a difference?

Barnett Clare (DE), Boehnke Tanja (DE), Eggebrecht Lisa (DE), Heinemann Klaas (DE), Klinghardt Moritz (DE), Rizzo Manuel (DE)

ZEG Berlin

**Context:** Intrauterine device (IUD) expulsions have been reported to increase with Body Mass Index (BMI). This might be due to challenges during insertion, such as limited visibility or difficulty accessing the uterus. Understanding these associations is critical for improving patient outcomes.

**Objective:** To investigate the association between BMI and IUD insertion issues (e.g., multiple insertion attempts, failed insertion, complications).

**Method:** EURAS-LCS12 is an ongoing prospective, non-interventional Bayer-sponsored study in ten European countries. The following BMI (kg/m<sup>2</sup>) categories were defined: <18.5 (underweight); ≥18.5 to <25 (normal weight); ≥25 to <30 (overweight); ≥30 to <35 (obese class I); ≥35 to <40 (obese class II); ≥40 (obese class III). Descriptive analyses and calculations of risk difference (RD) per 1,000 women were performed to compare insertion issues between women with normal weight vs. underweight, overweight and obesity.

**Main Outcome Measure(s):** IUD insertion issues reported by the inserting healthcare professional (HCP).

**Results:** Of 96,221 women, 3.2% (N=3,038) classified as underweight, 58.7% (N=56,493) as normal weight, 23.8% (N=22,866) as overweight, and 14.4% (N=13,824) as obese (class I: 9.5%, N=9,177; class II: 3.3%, N=3,169; class III: 1.5%, N=1,478). Overall, insertion issues were rare (1.9%). No increased risk was found in women with overweight or obesity compared to normal weight (RD -5.1 and -6.7/1,000 women, respectively). However, an additional 4 in every 1,000 women being underweight will experience insertion issues when compared to women with normal weight (RD 4.0). The risk of complications was higher in women with underweight (RD 3.3/1,000 women) while failed IUD insertion (0.2%) and multiple insertion attempts (1.0%) did not differ by BMI categories. Most frequent reasons for multiple insertion attempts were HCP handling issues (e.g., incorrect IUD position, accidental removal; 35.7%) and anatomical abnormalities (e.g., dilatation problems, abnormal uterine axis; 42.0%), regardless of BMI. Difficulty due to obesity was the reason in 5.2% of women with obesity.

**Conclusions:** We could not find an effect of higher BMI on insertion issues. Any previously reported association between higher BMI and expulsion rates might be due to other factors and not due to perceived issues with insertion. However, underweight seems to play a role in the experience of insertion difficulties.

## POSTER SESSION

## P7. Comprehensive Analysis of Hormonal Contraceptive Use in the Estonian Biobank

Džigurski Jelisaveta (EE), Laisk Triin (EE), Mägi Reedik (EE), Milani Lili (EE)

Estonian Genome Centre, Institute of Genomics, University of Tartu

For millions of women, hormonal contraceptives (HC) support reproductive goals and offer relief from symptoms of gynecological conditions. Despite their widespread use and well-documented population-level trends, little is known about individual-level long-term use and switching patterns. Moreover, HC are associated with various side effects, including venous thromboembolism (VTE), and data on genetic determinants of side effects during HC use are limited.

Leveraging Estonian Biobank (EstBB) dataset for >72,000 women aged 15-55 from 2004 to 2022, we aimed to: 1) study HC use patterns in real-life data, 2) evaluate suitability of longitudinal biobanks, such as EstBB for studying genetic risk for HC side effects, and 3) estimate prevalence of genetic variants associated with higher VTE risk among HC users.

We conducted frequency analysis, integrating demographic, genetic, and electronic health records data to identify HC user profiles, use patterns and clinical diagnoses before, during and after HC use. We also assessed the presence of VTE risk-increasing SNPs in the F5 (rs6025) and F2 (rs1799963) genes among users.

Across study period, 20 different HC preparations with 5 routes of administration (intrauterine device (IUD), ring, pill, patch and implant) were used. The most popular were combined HC containing gestodene (n=27,926), drospirenone (n=26,305), and levonorgestrel-releasing IUD (n=24,773). Comparable to the general Estonian population, combined HC remained dominant, and progestin-only methods use increased with age.

In our dataset, 63% of HC users switched preparations at least once, with 16% being rapid switchers (short pre-switch HC use and new HC  $\leq 3$  months). Among rapid switchers, side effects-related diagnoses like migraine were noted before the switch, indicating the dataset's potential to study genetic risk of side effects. Additionally, 3% of users had medical or spontaneous abortion during treatment period, possibly indicating contraceptive failure. Finally, 5% of HC users carried at least one VTE-associated genetic variant, and 2% of carriers were diagnosed with VTE during HC use.

These findings on HC use trajectories, consistent with the population-level statistics, provide insights into real-world use patterns, offering additional context and support for understanding women's preferences, as well as effectiveness and safety of HC treatments. Moreover, EstBB dataset has potential for genetic analyses of HC use and associated side effects.

## POSTER SESSION

## P8. Contraception methods use in adolescents with mental disorder

Cezimbra Giani (BR), Guazzelli Cristina (BR)

UNIFESP

**Objective** To evaluate the continuity and satisfaction rate with contraceptive methods over 12 months in adolescents with mental disorders.

**Method** Prospective cohort study carried out at ADOLESCENTRO, a reference center for care for adolescents with mental disorders, in Brasília/DF- Brazil. All patients underwent a gynecological consultation and an educational group providing guidance on contraceptive methods (oral contraceptives, injectables, condoms, hormonal and non-hormonal intrauterine device (IUD). Adolescents who opted for the hormonal IUD or the quarterly injectable were included in the study. The patients had mild and moderate mental disorders. Sociodemographic data were collected, such as age, education and gynecological data (menarche, coitarche, regularity of menstrual cycles, history of sexual violence and presence of symptoms). Follow-up was quarterly for 12 months, with assessment of symptoms, desire to continue and satisfaction with the use of the quarterly injectable or hormonal intrauterine device (IUD).

**Results** 103 adolescents participated in the study, 34 of whom chose to use the hormonal IUD and 69 the quarterly injectable with medroxyprogesterone acetate (DMPA). After 12 months, 26 adolescents (76.6%) continued to use the IUD. During follow-up, one teenager (2.9%) wanted to have it removed after 3 months, three (8.8%) developed spontaneous expulsion of the IUD and 4 (11.7%) had a drop out. Regarding satisfaction after 12 months of use, of the 30 who maintained the method, 29 (96.6%) adolescents were satisfied. Among the 69 adolescents who chose to use DMPA, after 12 months of follow-up, 37 (55.2%) said they were satisfied. Among the 30 (44.7%) who discontinued use, the most frequent causes were irregular bleeding and weight gain. When comparing the two methods, a statistically significant difference was demonstrated for IUD users, with a value of  $p=0.0003$  for continuity and  $p=0.0000164$  for satisfaction.

**Conclusion** We observed a significantly higher rate of continuity and satisfaction at 12 months with the use of hormonal IUDs compared to the use of DMPA. This result corroborates the preferential indication for the use of long-acting reversible methods (LARC) for adolescents, especially for those who are most vulnerable

## POSTER SESSION

## P9. Analysis of the quality of the videos about the contraceptive vaginal ring released on the social network Tiktok

Amorim Geovana (BR), Guazzelli Cristina (BR), Toledo Ana Luiza (BR)

UNIFESP

**OBJECTIVE:** To evaluate the preliminary results of the content of the videos about the contraceptive method “vaginal ring” posted on the social network Tiktok.

**METHOD:** A search was carried out in the Tiktok-scraper software for videos that addressed the theme of “nuvaring” on TikTok. This software also provided some descriptive characteristics of each video: the type of user (individual, organization, or healthcare provider), the number of views, the number of likes, and the number of shares. All videos in which the language was not Portuguese were excluded. Two physicians specializing in gynecology and a medical student evaluated the videos with the Global Quality Score (GQS), which is used in the literature to measure the educational value of the videos, being composed of a scale with 5 possible ratings. One point means low quality and useless for patients, and five points is considered excellent quality, with high utility for the viewer. In case of disagreement in the evaluations, a simple arithmetic average was performed for the final classification.

**RESULTS:** In the study period, 57 videos were found. Taking into account the GQS score, it was found that only 10.52% (n=6) obtained good quality with a good flow of information (grade  $\geq 4$ ); 43.85% (n= 25) with a flow below the ideal (grade  $\geq 3$  and  $< 4$ ); and 45.61% (n=26) were evaluated with low quality (grade  $< 3$ ).

**DISCUSSION:** Most of the videos analyzed (89.48%) were considered to have content below adequate, with little use for the people who viewed them. Thus, only 10.52% of them obtained a good evaluation, with adequate presentations and useful content for users. There is a need for adequate studies to assess the general scenario of medical content shared in the media, in addition to the importance of rethinking the way content is produced for dissemination.

**CONCLUSION:** It is concluded that most videos about the vaginal ring on TikTok have unsatisfactory educational quality, highlighting the need for greater rigor in the production and dissemination of health information on social networks.

## POSTER SESSION

## P10. Adolescents' contraceptive choices in the immediate postpartum period: a cohort study

Carvalho Francisco (BR), Guazzelli Cristina (BR), Maia Elaine (BR), Peixoto Raquel (BR)

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**Objectives:** To assess contraceptive preferences, acceptance, continuation and satisfaction with contraceptive use among postpartum adolescents in Fortaleza, Brazil.

**Method:** This prospective observational study included 166 postpartum adolescents ( $\leq 48$  h after delivery) at a single public Brazilian hospital between November 2019 and March 2022. The women's interview took place in two different moments, before hospital discharge (in person interview) and six months after delivery (by telephone contact). Pearson's chi-squared and Fisher's exact tests were used to examine the association between categorical variables and satisfaction with long-acting contraceptive use. Adjusted logistic regression models were used to determine the factors that influence the early initiation of contraception before hospital discharge received by the cohort. Statistical analyzes were performed using the JAMOV statistical program version 2.3.28 and Microsoft Excel 2016.

**Results:** A total of 166 adolescents were included in the study. The contraceptive preferences of adolescents in the immediate postpartum period in the survey were implant 76 (45.8%), intrauterine device (IUD) 57 (34.3%), injectable 27 (16.3%) and pill 5 (3.0%). Almost half, 79 (47.6%), started using a long-acting reversible contraceptive (LARC) method before leaving hospital. Six months after delivery, 135 (81.3%) of participants reported using any method of contraception. Among implant users, the continuation rate was 100%, while the continuation rate for IUDs among those who started using the device before hospital discharge was 70%. The study found a significant association with higher satisfaction among users of long-acting reversible methods compared with non-LARC methods.

**Conclusion:** The immediate postpartum period has been shown to be an appropriate time to offer and provide safe contraceptive methods. LARCs (IUDs and implants) are highly valued options by postpartum adolescents, with high satisfaction and continuation rates.

## POSTER SESSION

## P11. Are natural estrogens used in contraception at lower risk of venous thromboembolism than synthetic ones? A systematic literature review and meta-analysis

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**Background** Venous thromboembolism (VTE) poses a significant global health challenge, notably exacerbated by the use of combined oral contraceptives (COCs). Evidence mainly focuses on the type of progestogen used in COCs to establish the increased risk of VTE with less data assessed on the type of estrogen used. This meta-analysis aims to assess the risk of VTE associated with COCs containing synthetic estrogens like ethinylestradiol (EE) versus natural estrogens like estradiol (E2).

**Methods** A systematic review and meta-analysis was conducted following the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Literature searches were performed in December 2023 in MEDLINE and EMBASE to identify clinical studies comparing the VTE risk between COCs containing synthetic versus natural estrogens. Studies were selected through rigorous screening, and data extraction followed standardized protocols, with statistical analyses employing a random effects model.

**Results** The search yielded five relevant studies, involving over 560,000 women/time, demonstrating a significant 33% reduction in VTE risk among users of natural estrogen-based COCs compared to synthetic estrogen-based COCs (OR 0.67, 95% CI 0.51-0.87). Stratification analyses using adjusted hazard ratios (HR) of the main observational studies showed a 49% reduced VTE risk of E2-based pills compared to EE in association with levonorgestrel.

**Discussion and Conclusion** Despite the longstanding use of EE-based COCs, emerging evidence supports a lower thrombotic risk associated with natural estrogens. This meta-analysis substantiates the lower VTE risk associated with natural estrogen-based COCs compared to synthetic alternatives, advocating for a re-evaluation of contraceptive guidelines to prioritize patient safety and reduce thrombotic risks.



## POSTER SESSION

## P12. Reduced Risk of Venous Thromboembolism with Natural Estrogen-Based COCs Compared to Ethinylestradiol Pills: Evaluation of Venous Thromboembolism Adverse Events Reported in FAERS for COCs

Douxflis Jonathan (BE), Raskin Lucie (BE)

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**Objectives** In the context of post-marketing surveillance to monitor the real-life safety profile of drugs, a disproportionality analysis was performed to compare the reporting proportions of adverse events (AEs), specifically thrombotic events, associated with combined oral contraceptives (COCs) within the FAERS spontaneous reporting database. The proposed study compares the proportionality reporting rate of thrombotic events between natural estrogen-based COCs, estradiol (E2) and estetrol (E4), and conventional synthetic estrogen-based COCs as ethinyl estradiol (EE).

**Methods** A disproportionality reporting rate (DPRR) analysis of venous thromboembolism (VTE) events associated with various COC formulations was conducted by extracting individual case reports from FAERS database.

**Results** Using EE-levonorgestrel (EE-LNG) as a reference, results reveal a lower proportionality reporting rate (PRR) of VTE events associated with natural estrogens (E4 and E2) compared to EE-based combinations. E4-drospirenone (E4-DRSP) presents the lowest PRR, 0.54 [95%, 0.30-0.99], which is not higher than the rates observed for progestin-only pills such as DRSP (0.64, [95%, 0.55-0.74]). Similarly, the combination of E2-dienogest exhibits a PRR of 0.80 [95%, 0.66-0.97]. The combination of EE-drospirenone (EE-DRSP) reports the highest DPRR at 5.21 [95% CI, 4.98-5.45].

**Conclusion** Since a higher DPRR reflects a greater thrombotic risk, these findings suggest a safer thrombotic profile of natural estrogen-based COCs, particularly E2 and E4 formulations, over synthetic estrogen-based COCs containing EE. These findings further confirm previous data from the disproportionality analysis of the EudraVigilance database.

## POSTER SESSION

## P13. Endometriosis-Associated Infertility: Mechanisms and Treatment Strategies

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### Introduction:

Endometriosis is a chronic gynecological disorder affecting 10-15% of women of reproductive age, and it is a leading cause of infertility. The condition is characterized by the presence of endometrial-like tissue outside the uterus, which causes inflammation, adhesions, and scarring. This review investigates the mechanisms underlying endometriosis-related infertility and evaluates the effectiveness of various treatments, including surgery, hormonal therapies, and assisted reproductive technologies (ART), particularly in vitro fertilization (IVF).

### Objective:

The objective of this review is to synthesize findings from 15 research articles published between 2019 and 2022 on the mechanisms contributing to infertility in women with endometriosis and to assess the effectiveness of treatment approaches, focusing on surgical methods, hormonal treatments, and ART.

### Methods:

A systematic review was conducted by selecting 15 peer-reviewed studies from an initial pool of 500 articles. These studies were analyzed for their methodology, treatment interventions, outcomes, and heterogeneity. Risk of bias was assessed, and subgroup and sensitivity analyses were performed to explore sources of variability and to evaluate the robustness of results.

### Results:

The result of this review highlights that inflammation, immune dysfunction, hormonal imbalances, and impaired endometrial receptivity are key factors in infertility associated with endometriosis. Surgical interventions, particularly laparoscopic excision, improve pregnancy rates by removing endometriotic lesions and preserving ovarian function. Combining surgery with hormonal therapies enhances fertility outcomes. Though IVF success rates are lower in women with endometriosis, prior surgery improves IVF success. Preventive strategies, including lifestyle changes and hormonal treatments, may reduce the risk of endometriosis-related infertility. Sensitivity analyses confirmed robust findings, though variations in population and study designs influenced results.

### Conclusions:

Personalized treatment plans, tailored to the severity of endometriosis and individual patient characteristics, are crucial for improving fertility outcomes in women with this condition. Combining surgical interventions, hormonal therapies, and ART approaches, particularly IVF, may offer effective solutions for managing infertility associated with endometriosis.

**Keywords:** Endometriosis, infertility, ART, IVF, fertility preservation

## POSTER SESSION

## P14. Phenotypes of Endometriosis and Anti-Müllerian Hormone (AMH) – Is there a correlation?

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**Context and Objective:** Decreased AMH levels in patients with endometriosis are often interpreted as a consequence of the disease. The aim of this analysis was to investigate whether AMH might also serve as an indicator of disease progression in endometriosis.

**Methods and Patients:** AMH levels in patients with histologically confirmed endometriosis were analyzed in relation to clinical parameters such as ovarian endometriosis, history of pregnancies and deliveries, IVF treatments, gynecological surgeries, and the severity of dysmenorrhea (assessed using the Visual Analog Scale, VAS). Potential influencing factors, including age at menarche, irregular menstrual cycles, hypermenorrhea, and any ongoing hormone therapy at the time of AMH measurement, were also considered.

**Results:** The disease courses of 232 women aged 20–48 years (mean age: 31.98 years) were retrospectively analyzed. Patients with a history of ovarian endometriosis had significantly lower median AMH levels compared to women without ovarian endometriosis (1.47 vs. 2.0 ng/ml,  $p = 0.03$ ). Similarly, median AMH levels were lower in patients who had undergone more than one gynecological surgery compared to those with only one surgery (1.42 vs. 1.9 ng/ml,  $p = 0.03$ ). Non-significantly lower median AMH levels were observed in women with a history of at least one IVF treatment (0.479 vs. 1.82 ng/ml,  $p = 0.174$ ), those with full HPV vaccination (1.875 vs. 2.23 ng/ml,  $p = 0.688$ ), and those with hypermenorrhea (1.31 vs. 2.005 ng/ml,  $p = 0.152$ ), compared to women who did not meet these criteria.

**Conclusions:** These findings suggest potential indicators of a reduced ovarian reserve, such as ovarian endometriotic lesions and the number of prior gynecological surgeries, in women with endometriosis. However, it remains unclear whether endogenous processes leading to lower AMH levels or a reduction in ovarian reserve also influence the disease activity of endometriosis.

## POSTER SESSION

## P15. Gut Microbiota in Endometriosis - can it be used as a screening method?

Bausic Alexandra Irma Gabriela (RO), Brătilă Elvira (RO)

UMF "Carol Davila" Bucharest

**Context:** Endometriosis is a significant medical, social, and economic condition due to its symptoms and chronic nature. The exact etiopathogenic mechanisms of endometriosis are under continuous research. Specialized literature suggests investigating the association between endometriosis and the microbiome.

**Objective:** To identify intestinal microbial species present in patients with endometriosis and to investigate how evaluating intestinal microbiota can be used as a screening test in diagnosing endometriosis, in combination with clinical and imaging examinations.

**Methods:** This study is a retrospective, observational study. All patients enrolled in the study underwent imaging examinations and completed the GI Effects® Comprehensive Stool Profile test (proprietary to Genova Diagnostics) to identify components of their intestinal microbiota. The results were compared with findings from the specialized literature.

**Patients:**

Nine patients diagnosed with endometriosis were included in the study. The following quantitative variables obtained from anamnesis, clinical, and paraclinical examinations were analyzed: age, year of inclusion in the study, the medical unit where the study was conducted, symptoms, imaging features of endometriosis lesions, surgical intervention, inflammatory markers and seven commensal microbial species detected microscopically and through PCR.

**Intervention(s)**

The stool samples were analyzed to assess the state of the microbiome using the GI Effects® Comprehensive Stool Profile test (proprietary to Genova Diagnostics). Through this testing panel, we obtained information on several inflammatory markers—calprotectin,  $\beta$ -glucuronidase, eosinophil cationic protein A, fecal secretory IgA—and eight commensal microbial species detected microscopically and through PCR. Descriptive statistics for categorical variables were expressed as frequencies and percentages of abnormal test results.

**Results:** The intestinal microbiota test confirms the presence of a commensal intestinal flora rich in species reported in the literature. A dysbiosis pattern associated with inflammation was identified, as detailed in the presented results and it was compared to the data from the literature of specialty.

The composition of the intestinal microbiota can be used as a screening test in the diagnosis of endometriosis, combined with clinical and imaging examinations.

## POSTER SESSION

## P16. What is the role of Molecular Biomarkers at endometriosis related infertility? A narrative review of literature.

Daniilidis Angelos (GR), Gkrozou Fani (GR), Skentou Chara (GR), Vatopoulou Anastasia (GR)

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**Objective:** Endometriosis is a chronic benign inflammatory disease that affects about 10-15% of reproductive-age women. The clinical presentations of endometriosis include dysmenorrhea, dyspareunia, chronic pelvic pain and infertility. It is estimated that 30-50% of women diagnosed with endometriosis face with fertility issues. Therefore, there is a need for an early diagnosis of endometriosis-related infertility. In this study we are aiming to identify the role of biomarkers as predictive factors about the presence of the disease, its severity and their correlation with the pregnancy outcome.

**Methods:** We performed an electronic database search of all published studies in PubMed and EMBASE from January 2018 to May 2023.

**Results:** Numerous innovative biomarkers identified in cases of endometriosis and infertility have been studied over the past years, including micro-RNAs, BCL6 endometrial expression, CTLA-4, HLA-G, PD-1, PDL-1 immune checkpoint molecules, plasma FN-fibrin complexes, HOXA-10 gene, systemic inflammatory response markers and the eutopic endometrium proteome.

**Conclusion:** A lot of research has been made to identify diagnostic biomarkers for an early detection and prevention of endometriosis-associated infertility. Although, none of these biomarkers displayed enough diagnostic accuracy to be used in daily clinical practice. Future research is valuable in order to establish them as reliable diagnostic tools.

## POSTER SESSION

## P17. How to run an online knowledge exchange type focus group for new service developments and grant applications

(GB), Elizabeth Ball (GB), Hayden Karen (GB), MacGregor Anne (GB), McMurray Rebecca (GB), Moore Carmel (GB), Najlah Mohammad (GB), Rivas Carol (GB), Todisco Aurora (GB), Wattar Bassel (GB), Zhang Jufen (GB)

[McMurray] Barts Health NHS Trust, [Todisco] Barts Health NHS Trust

### Context

The integration of patient perspectives into clinical research is essential for developing patient-centered healthcare solutions. Focus groups risk being used to confirm researcher choices rather than enable patients and professionals to exchange knowledge and co-develop research plans. Healthcare professional-driven initiatives run the risk of not being accepted by service users. By using an inclusive on-line focus group, we illustrate a reproducible approach that achieved diversity, conducted for an NIHR feasibility study grant application.

### Objectives

The primary goal was to conduct focus groups that enabled researchers to engage with patients in knowledge exchange in a way that both respects and amplifies patient voices. This is intended to be reproducible across diverse patient cohorts, enabling researchers to collect valuable qualitative data that can be systematically analysed and incorporated into the development of scientific study.

### Methods

We present a reproducible format for conducting an authentic knowledge exchange focus group. Women diagnosed with endometriosis were recruited to gather their insights on the use of body-identical progesterone (BIP) for managing endometriosis-related pain. A poster with a QR code link to a Microsoft Teams meeting was used to recruit patients via endometriosis support groups and clinics. Our strategies were focused on including adequate geographical, educational, age and ethnic representation. The discussion was neutrally facilitated and transcribed live with participant consent. Bi-directional knowledge exchange was incorporated into discussions.

### Results

We learned about the impact of synthetic P4 side effects, and personal and social media interest in unlicensed body identical P4 (BIP). Barriers to clinical research included concerns about side effects, availability of clinical support whilst on treatment, and availability of BIP after the trial concludes. Outcome measures should include satisfaction with treatment, pain scores, impact of disease on life quality. Questions were raised about interference of vaginal application with condom safety. The design of the clinical study was refined with participants.

### Conclusion

This work offers a reproducible framework for conducting patient-centered knowledge exchange focus groups that can be applied across diverse research settings. The framework serves as a valuable tool for researchers seeking to enhance the inclusivity and impact of their studies.

## POSTER SESSION

## P18. Adenomyosis: The impact of using the Levonorgestrel-Releasing Intrauterine System (LNG-IUS)

Magalhaes Jarbas (BR), Meirelles Larissa (BR), Pereira Costa Newton (BR)

[Magalhaes] Faculdade Franco Montoro, [Meirelles] Faculdade Franco Montoro, [Pereira Costa] Faculdade Franco Montoro

**CONTEXT:** Adenomyosis is a gynecological condition characterized by the infiltration of endometrial tissue into the uterine muscles. Pain and heavy uterine bleeding cause a significant emotional and social impact, compromising patients' quality of life.

**OBJECTIVE:** To carry out a systematic review identifying the main consequences of using the LNG-IUS in patients with adenomyosis. Observe whether there is an improvement in the menstrual pattern, a reduction in uterine volume and pain improvement in the quality of life in these women.

**METHODS:** Research carried out in the PUBMED and Cochrane Library databases, between January 2019 and December 2024. After the first Boolean search, 47 articles were found, of which 10 were selected, considering the inclusion criteria: heavy menstrual bleeding, increased uterine volume and pelvic pain. In addition, the clinical and ultrasound parameters considered for the diagnosis of adenomyosis were evaluated in the selected articles.

**RESULTS:** Considering quality of life as a value attributed to the reduction of bleeding and pain, there is also an improvement in work absenteeism and greater comfort in daily activities. However, methodological difficulties, such as variability in inclusion criteria between studies, were faced during the analysis. Examples of these difficulties include differences in methods of diagnosing adenomyosis, such as the use of MRI versus ultrasound, and variability in the length of follow-up studies, which impacted the applicability of results. The perception of general effectiveness of the method seems to be better in patients with a uterine volume of less than 200 cm<sup>3</sup>. The data prompted certain doubts, in order to know whether the decrease in uterine volume found in most articles was due to treatment with the LNG-IUS or the period in which it was carried out, which is the phase in which there is a decrease in estrogen in these women, due to the evolution of their age.

**CONCLUSION:** The Levonorgestrel Uterine System proved to be an effective and promising method in improving symptoms resulting from adenomyosis, especially in improving pain and menstrual pattern and a slight decrease in uterine volume. The use of the LNG-IUS in women with adenomyosis contributes to improving their quality of life, resulting in high rates of continued use.

**Keywords:** Adenomyosis, Levonorgestrel Uterine System, Increased Uterine Bleeding.

## POSTER SESSION

## P19. Endometrial and placental parallels of morphological and immunohistochemical changes in women with hyperproliferative diseases of the uterus

Bondarenko Yurii (UA), Dubchak Alla (UA), Shevchuk Oleksandr (UA), Zadorozhna Tamara (UA)

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The endometrium, which is the most dynamic tissue in the female body, is where the placenta is formed. Changes in the endometrium may be important in the development of the placenta, which, in turn, ensures the formation and maturation of the fetus throughout the physiological gestation.

**Purpose of the work:** to investigate the morphological and immunohistochemical features of the endometrium in women with hyperproliferative diseases of the uterus (HDU) and the placenta in these same women after delivery.

**Methodology.** Morphological and immunohistochemical features of the endometrium before pregnancy were studied in 54 women with HDU of reproductive age and placentas in the same women after childbirth. Of these, 22 (40.7%) had uterine leiomyoma, 11 (20.4%) had uterine endometriosis, and 9 (16.7%) had endometrial polyps. 39 (72.2%) of the examined women had a combination of fibroids. On days 21-24 of the 28-day menstrual cycle, hysteroscopy was performed using Karl Storz equipment (Germany) according to strict clinical indications, the main of which was suspicion of uterine endometrial pathology. Thus, a certain “layer” of patients of reproductive age who were in the department of rehabilitation of women’s reproductive function of the State Institution “VCMD NAMS of Ukraine” was examined. Morphological and immunohistochemical (IHC) examination of the endometrium and placentas was performed: determination of estrogen receptor (RE) and progesterone (RP) markers, hematopoietic stem and progenitor cell marker CD-34, vascular endothelial growth factor VEGF, proliferation factor – Ki-67 protein, mesenchymal factor vimentin and anti-apoptotic antigen Bcl-2. Immunohistochemical examination. was performed using an Olympus BX51 microscope (Japan).

**Results** and data analysis. All patients with GFDM had endometrial pathology before pregnancy. 24 (44.4%) women had combined endometrial pathology. High expression of steroid receptors for estrogen and progesterone in the nuclei of glandular epithelial cells was noted. Strong expression of VEGF and Vimentin was found in the cell wall of the glands and endometrial stroma and Ki-67 in the endometrial stromal cells in the examined women. Morphological and IHC study of the placentas indicates compensatory reactions in the examined women, which is manifested by different expression of Vimentin and VEGF in all the examined placentas in the syncytia of the villus and the endothelium of some vessels of the middle villi. CD-34 expression was also found in the villous chorion of the placenta of the examined women.

**Conclusions.** In the endometrium of women with GERD, changes in proliferative activity and cell cycle regulation were found, which gave grounds for a more accurate choice of treatment tactics before pregnancy, which is confirmed by compensatory changes in the placenta in patients after childbirth.

**Keywords:** endometrium, placenta, hyperproliferative diseases of the uterus, women of reproductive age, leiomyoma, adenomyosis, VEGF, vimentin, Ki-67, CD-34.



## POSTER SESSION

## P20. Characteristics of the illness and psycho-emotional condition of women with uterine leiomyoma and adenomyosis affected by war

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**Context:** in times of war, strong psychological stress leads to a deterioration in the condition of women's reproductive systems, an increasing number of inflammatory diseases and neoplasms of the reproductive system. Pre-existing diseases, such as leiomyoma and uterine endometriosis, are a factor that exacerbates stress, causes distress and leads to a decrease in quality of life.

The objective: to investigate the characteristics of the clinical progress of uterine leiomyoma and adenomyosis in the context of psycho-emotional changes in women of reproductive age affected by military intervention.

**Methods** and Patient(s). The illness and psycho-emotional condition of women of reproductive age with uterine adenomyosis and leiomyoma were assessed. Group 1 - 37 women who were in the occupied territories, 2 - 35 patients who were affected by the factors of the military conflict, 3 - 38 patients internally displaced during the military conflict.

**Results.** The most common symptoms were menstrual disorders (75.5 %) and pain (40.0 %). Heavy menstrual bleeding was the most common in all groups (54.1 %, 65.7 % and 65.8 %, respectively, in the groups), perimenstrual bleeding (13.5 %, 22.9 % and 26.3 % of cases).

The average score of situational anxiety, which is directly related to the event of exposure to dangerous conditions, indicates a high level of anxiety in women of the 1st ( $45.9 \pm 1.0$  points) and 3rd ( $45.2 \pm 1.2$  points) groups. The level of personal anxiety was the highest in group 3 ( $45.3 \pm 1.3$  points), in group 2 women had moderate personal anxiety ( $43.7 \pm 1.0$  points), and in group 1 - low ( $29.6 \pm 0.9$  points). The lowest level of depression was found in group 1 ( $8.9 \pm 0.8$  points). In group 1 the average depression score was  $12.1 \pm 0.5$  points, the lowest in women with leiomyoma (3-9 points), the highest in women with adenomyosis and pregnancy loss (26-27 points).

**Conclusions.** The first place in terms of the frequency of reproductive health disorders was ranked by menstrual disorders (78.9-85.7 %), heavy menstrual bleeding (54.1-65.8 %) without differences by group. Women who were in the areas of direct invasion had a much harder time with stressful experiences, as evidenced by high levels of situational anxiety. Women who were affected by the factors of the war, are more likely to experience social anxiety. Temporarily relocated persons showed certain tendencies towards adaptation, were more concerned about the existing disease, had the highest level of personal anxiety.

## POSTER SESSION

## P21. The clinical challenge of Cotyledonoid dissecting leiomyoma (CDL) with adenomyosis.

Hariri Mohamad Moafak (SY), Kourdy Alaa (SY)

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**Context:** Cotyledonoid dissecting leiomyoma (CDL) with adenomyosis is an exceptionally rare benign uterine tumor, with only the second case reported in the medical literature. This tumor exhibits atypical features that can resemble malignancy. Accurate diagnosis is crucial to prevent unnecessary surgery.

**Objective:** To report a case of CDL with adenomyosis and to highlight the challenges in differentiating CDL from uterine sarcomas.

**Patient:** A 46-year-old woman (gravida 0, para 0) presented with flank pain radiating to the back for 3 months. Ultrasound revealed a uterine mass.

**Intervention:** Exploratory laparotomy with leiomyoma excision.

**Main Outcome Measure:** Pathological confirmation of CDL with adenomyosis

**Results:** The mass ( $5.9 \times 5.6 \times 2.6$  cm) showed features consistent with CDL, including disorganized smooth muscle and hyaline degeneration. Histology also revealed endometrial glands and stroma indicative of adenomyosis. The patient's flank pain improved post-operatively.

**Conclusion:** CDL with adenomyosis can present with atypical symptoms and mimic malignant tumors. This case highlights the importance of considering CDL in differential diagnosis to avoid misdiagnosis and unnecessary surgical interventions. A thorough clinical evaluation and careful pathological examination are essential for accurate diagnosis.

## POSTER SESSION

## P22. The discovery of the COL4A5 gene mutation responsible for Alport syndrome in a fetus with polyhydramnios

Dusanovic Pjevic Marija (RS), Janjic Tijana (RS), Milicevic Srboljub (RS), Perisic Mitrovic Milena (RS), Petrovic Bojana (RS), Stamenkovic Jelena (RS), Vrzic Petronijevic Svetlana (RS)

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**Context and objective:** This report presents a case of prenatally detected Alport syndrome, attributable to a COL4A5 gene mutation inherited from a mother who is a carrier without clinical manifestations. To the best of our knowledge, this represents the initial instance of antenatally detected Alport syndrome without prior recognition of maternal symptoms.

**Patients:** A 34-year-old tertipara, in the 32nd week of gestation was referred for prenatal genetic testing subsequent to ultrasound findings indicative of intrauterine growth restriction (IUGR) below the 1st percentile (equivalent to 25/26 weeks of gestation), polyhydramnios (single deepest pocket [SDP] 93), and echogenic bowel associated with bowel dilatation up to 13 mm. The parents are non-consanguineous, and their two previous female offspring were healthy.

**Method and results:** The cell-free fetal DNA (cffDNA) test indicated a low risk for the investigated aneuploidies, with a fetal fraction (FF) of 6.9%. Quantitative fluorescence polymerase chain reaction (QF-PCR) analysis of the amniotic fluid sample revealed no numerical aberrations of chromosomes 13, 18, 21, and the sex chromosomes (rsa(13,18,21)x2, rsa(X,Y)x1), indicating a male chromosomal sex. Trio exome sequencing identified a missense heterozygous genetic variant c.1871G>A, p.(Gly624Asp) in the COL4A5 gene. This variant was classified as pathogenic-class 1. It was detected in the fetus in the hemizygous state and in the mother in the heterozygous state. Heterozygous or hemizygous pathogenic variants in the COL4A5 gene are associated with Alport syndrome, which follows an X-linked dominant inheritance pattern. Although Alport syndrome is inherited in an X-linked dominant manner, females typically exhibit a milder phenotype. Given these findings, the parents chose to terminate the pregnancy.

**Conclusion:** The presented case underscores the pivotal role of exome sequencing in the evaluation of fetal structural abnormalities. Furthermore, it highlights the importance of recognizing polyhydramnios as a potential structural anomaly warranting further investigation.

## POSTER SESSION

## P23. Practice of oncology nurses-led model on the genetic risk assessment and management of ovarian cancer

Wang Yan (CN)

**Objective:** To explore the application effects of genetic risk assessment and management model of ovarian cancer led by oncology nurses.

**Methods:** From July 2023 to June 2024, the model was led by oncology specialist nurses, combined with ovarian cancer medical experts. Genetic risk assessment, genetic testing guidance, ovarian cancer risk management and follow-up care were provided.

**Results:** A total of 186 people were screened and 62 people (33.3%) with hereditary ovarian cancer risk were enrolled. Totally 20 people (10.75%) underwent genetic testing, and 16 people (8.6%) had cancer susceptibility genes mutation. ovarian cancer risk knowledge scores at the one-month follow-up stage were higher than those at the cancer risk assessment stage and the cancer risk management stage ( $P<0.05$ ). Hospital Anxiety and Depression Scale scores were all in the normal range ( $P>0.05$ ). The compliance rate of ovarian cancer risk management at the six-month follow-up stage was higher than that at the one-month follow-up stage. The overall satisfaction of patients was 99.16%.

**Conclusion:** The genetic risk assessment and management model of ovarian cancer led by oncology nurses is beneficial to the improvement of ovarian cancer risk knowledge level and the compliance rate of ovarian cancer risk management plan without anxiety, depression and other negative psychological effects, which is worthy of clinical promotion.

## POSTER SESSION

## P24. A high concentration of niosomal hyaluronic acid moisturizing gel for vaginal dryness and dyspareunia. a clinical trial final results

Losa Fernando (ES), Baquedano Laura (ES), González Silvia (ES), Palacios Santiago (ES), Vich Gina (ES)

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### Objective

Evaluate the safety and effectivity of a moisturizing vaginal gel with high concentration of hyaluronic acid niosomes, prebiotics and Aloe vera (Idracare® Gel) for treatment of the symptoms associated with genitourinary syndrome of menopause (GSM).

### Methods

Multicenter, prospective, single-arm, pilot clinical trial carried out in Spain. Peri/postmenopausal women aged 40 to 65 referring moderate or severe vaginal dryness and/or dyspareunia were recruited.

### Intervention

Patients were treated with one single-dose cannula containing 5 mL of Idracare® Gel, twice a week for 12 weeks. Results of the effect on the intensity of the aforesaid symptoms –change vs baseline in a Visual Analogue Scale (VAS) where 0=no dryness/dyspareunia and 10=maximum dryness/dyspareunia– and the effect on the Bachmann Vaginal Health Index (BVHI) at 12 weeks are presented.

### Results

Data of 127 patients were available for the analysis. The VAS mean score (SD) has shown a significant improvement: 7.6 (1.5) vs 4.6 (2.3) ( $p < 0.0001$ ) for vaginal dryness and 7.6 (1.8) vs 4.6 (2.6) ( $p < 0.0001$ ) for dyspareunia. The vaginal dryness and dyspareunia VAS mean scores have improved in 87.4% and 87.2% of patients, respectively. The mean total value (SD) of the BVHI has increased from 11.9 (2.7) at baseline to 16.9 (3.1) at week 12 ( $p < 0.0001$ ) and 94.7% of patients had an BVHI total value improvement. Between 77.2% and 85.1% of patients have shown an improvement in elasticity, fluid secretion type and consistency, moisture, and epithelial integrity individual BVHI scores. The 90.7% of patients reported to be satisfied or totally satisfied with the treatment. No serious adverse events were reported during the study.

Only 2 of the reported adverse events were possibly related to the investigational product.

### Conclusions

Significant improvement of vaginal dryness and dyspareunia, as well as of overall vaginal health was observed upon 12 weeks of treatment with Idracare® Gel in peri/postmenopausal women with GSM.

## POSTER SESSION

## P26. Changes in Prolactin and Insulin Resistance in PCOS Patients Undergoing Metformin Treatment: A Retrospective Study

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**Context:**

In recent studies, it has been shown that prolactin levels influence metabolic outcomes. Metformin has been used for polycystic ovary syndrome (PCOS) patients for a long time, who may react differently to the treatment depending on their baseline prolactin levels.

**Objective:**

Due to the small sample sizes of previous studies and due to the fact that there are too few studies about metformin and prolactin in women, we conducted this retrospective study. We looked at prolactin levels before and after treatments and the association with outcomes after metformin treatment in PCOS women suffering from overweight/obesity and insulin resistance.

**Methods:**

Retrospective observational study.

**Patients:**

75 women with PCOS (diagnosed using the Rotterdam criteria) and insulin resistance. Insulin resistance was diagnosed via the homeostasis model assessment for insulin resistance (HOMA-IR) > 2.5.

**Interventions:**

None. Retrospective design.

**Main Outcome Measures:**

HOMA-IR serum levels and prolactin levels.

**Results:**

SHBG ( $r = -0.408$ ;  $p < 0.001$ ) and prolactin ( $r = -0.402$ ;  $p < 0.001$ ) were inversely correlated to HOMA-IR at baseline. were inversely correlated at baseline. HOMA-IR and the LH:FSH ratio declined significantly after 6-8 months of treatment with metformin ( $p < 0.05$ ). Patients with lower prolactin levels at baseline ( $\leq 14.9$  ng/mL) showed sharper declines in HOMA-IR ( $-0.8$ , IQR  $-1.0$ ;  $-0.5$  vs.  $-0.6$ , IQR  $-0.8$ ;  $-0.3$ ;  $p = 0.049$ ) and increases in prolactin levels at follow up ( $1.6$  ng/mL, IQR  $-0.2$ ;  $3.8$  vs.  $-1.3$ , IQR  $-4.6$ ;  $3.2$ ;  $p = 0.003$ ), when compared to women with baseline prolactin levels of  $> 14.9$  ng/mL. Between basal prolactin and the difference in the HOMA-IR ( $r = 0.233$ ;  $p = 0.044$ ) a significant positive correlation could be shown.

**Conclusions:**

In PCOS women suffering from insulin-resistance and overweight/obesity, lower prolactin levels at baseline are linked to higher baseline HOMA-IR levels. Furthermore, those patients show an improved response to metformin treatment. More studies will be necessary to show these findings also in larger study populations.

## POSTER SESSION

## P27. Stress and Displacement and PCOS Psychological Symptoms

Krysenko Taisiia (UA), Parkhomenko Oksana (UA), Skitalinska Oksana (UA), Tutchenko Tetiana (UA)

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### Context

Living healthy is key to PCOS management. Neuroendocrine imbalances and stress perception dysfunction make PCOS women a special group in chronic stress situations like war and displacement.

### Objective

To evaluate the impact of war-induced internal displacement on PCOS women's psychological characteristics that determine their metabolic risks.

### Methods

Online survey 2 years after the start of the war in Ukraine. Sociodemographic and anthropometric data collection, self-reported questions for PCOS, PSS-10, GAD-7, SCOFF, and QBES.

### Patients

Self-reported internally displaced (DPCOS) and nondisplaced PCOS women (NDPCOS). Controls were displaced (DC) and non-displaced women without PCOS (NDC).

### Intervention

none

### Main Outcome Measures

Levels of perceived stress (PS) and anxiety (A), signs of eating disorders (ED), and associations with key determinants (Chi-square test).

### Results

476 patients were surveyed. PCOS (DPCOS, n=37), nondisplaced women with PCOS (NDPCOS, n=199), displaced controls (DC, n=29), and nondisplaced controls (NDC, n=197) without PCOS.

Higher levels of perceived stress (PSS) and anxiety (GAD) were found in both DPCOS and NDPCOS groups compared to control groups ( $p<0.05$ ). PSS mean (SD) were: DPCOS – 33.8, NDPCOS – 34.6, DC – 33.2, NDC – 31.5. GAD mean (SD) were: DPCOS – 16.4, NDPCOS – 16.8, DC – 16, NDC – 15.1.

ED suspicion was higher in PCOS groups compared to controls. Positive QBES were found in 64% of DPCOS, 71% of NDPCOS, 56% of NDC, and 48% of DC. SCOFF positives were more frequent in PCOS groups: 21 in DPCOS, 97 in NDPCOS, 55 in NDC, and 5 in DC ( $p<0.05$ ).

### Conclusion:

War-induced displacement increases psychological symptoms and eating disorders in women with PCOS. However, no significant differences were found between displaced and nondisplaced PCOS women in PSS, GAD, and ED. This might be because the displaced women had relatively quick access to healthcare and other resources since they lived in the capital. In contrast, significant differences were found between PCOS groups and controls, showing the impact of PCOS on psychological health and eating behaviors.

## POSTER SESSION

## P28. Characterization of PMS questionnaire responses in women based on cerebral blood flow during cognitive tasks

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### Introduction:

Premenstrual syndrome (PMS) affects approximately 70% of women of reproductive age and manifests as physical and emotional discomfort during the luteal phase. Symptoms such as irritability, depression, breast tenderness, and lower back pain can significantly hinder social activities. Diagnosing PMS typically requires long-term symptom tracking and consultation with healthcare professionals, which can be burdensome for many women. Researchers have developed convenient tools such as questionnaires and biological signal measurements to simplify evaluations, including autonomic nervous system activity and brain function assessments. Our previous study indicated a decline in oxygenated haemoglobin (Oxy-Hb) levels in the prefrontal cortex (PFC) during cognitive tasks in women with PMS. However, the relationship between reduced Oxy-Hb levels and PMS assessments using standard questionnaires remains unclear.

### Objective:

This study aimed to evaluate women with decreased Oxy-Hb levels in the PFC using two PMS assessment tools: the Premenstrual Dysphoric Disorder (PMDD) scale and the Daily Record of Severity of Problems Short-Form (DRSP-SF).

### Methods:

The study included 6 female university students in their 20s. Cognitive function was assessed using the N-back task, while PFC blood flow was measured with near-infrared spectroscopy (NIRS) during the luteal phase. The participants completed the PMDD scale before the measurements and recorded the PMS symptoms. The PMS symptoms on the day of the experiment were assessed by the DRSP-SF. Group data were compared using Mann–Whitney U tests. Ethics approval was obtained from the University of Tsukuba (1787-1) and Kanagawa Institute of Technology (20230125-04).

### Results and Discussion:

Three participants exhibited increased Oxy-Hb during the N-back task, indicating cerebral blood flow activation. The remaining participants exhibited stable Oxy-Hb levels. Based on NIRS responses, participants were categorised into “activated” and “low-activation” groups. The low activation group had significantly higher DRSP-SF scores ( $p = 0.04$ ), suggesting more severe PMS symptoms. However, no significant differences were observed in PMDD scale scores between the two groups. These findings suggest that cerebral activity correlates more closely with DRSP-SF scores, likely due to its diary-based design, which captures daily symptom fluctuations.

### Conclusion:

NIRS-measured cerebral activity patterns aligned with DRSP-SF scores, enabling the identification of women with more severe PMS symptoms. However, these patterns did not correspond to PMDD scale classifications. This indicates that integrating cerebral assessments could enhance PMS evaluations. Further research with a larger sample size is needed to validate these findings.



## POSTER SESSION

## P29. Examining the Impacts of Ukrainian War on Menstrual Disorders Among Childbearing Women: A Scoping Review and a Case Study

Osaulenko Tetiana (UA)

**Context:**

The ongoing conflict in Ukraine has raised concerns about its impact on the reproductive health of childbearing women, with particular focus on menstrual cycle disorders. This study explores the effects of war conflicts on menstrual health and compares findings with the experiences of Ukrainian women.

**Objective:**

To summarize existing literature on the effects of war conflicts on menstrual cycle disorders among childbearing women and compare these with the personal experiences of Ukrainian women using a case study approach.

**Methods:**

Literature Review: A scoping review was conducted using PubMed and Medline databases, focusing on studies from 2010 to 2024. Keywords included “menstrual cycle disorder,” “dysmenorrhea,” “secondary amenorrhea,” “war,” “conflict,” and more.

Case Study: A detailed examination of a 31-year-old Ukrainian woman experiencing cessation of menstruation since the onset of the conflict.

**Main Outcome Measures:**

Literature review summary on the prevalence and impact of menstrual disorders like dysmenorrhea and secondary amenorrhea in war zones.

Comparison with a case study from Ukraine.

**Results:**

Literature Review: Findings indicate a notable prevalence of menstrual disorders in conflict zones, exacerbated by stress and environmental factors. Key studies (Hannoun, Christopher, Krulewitch, Mishell, Urdal) highlight the broader implications of war on women’s reproductive health.

**Case Study:** Similar patterns were observed in Anna, who exhibited menstrual irregularities and emotional distress, underscoring the psychosocial impact of conflict.

**Case Study Details:****Patient Information:**

Hanna P., a 31-year-old living in a war-affected area, faced sudden cessation of menstruation at the war’s onset.

**Medical and Psychosocial Impact:**

Despite treatment with contraceptive pills, Anna’s menstrual irregularities persist, accompanied by significant emotional distress.

**Follow-Up and Recommendations:**

Ongoing support and counseling are vital for addressing the psychosocial impacts on reproductive health.

Enhanced access to comprehensive reproductive healthcare and mental health support is recommended.

**Conclusions:**

The experiences of Ukrainian women during the conflict, as evidenced by the case study, align closely with global observations from other war-impacted regions. There is an urgent need for targeted reproductive health interventions and further research into the long-term effects of conflict on reproductive health.

## POSTER SESSION

## P30. Reproductive System Disorders in Female Military Personnel Arising After the Onset of the Full-Scale Invasion of Ukraine

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**Context:** The full-scale military invasion of Ukraine has led to unprecedented involvement of women in the Armed Forces of Ukraine. The conditions of military operations, including chronic stress and other factors, may significantly affect their health, particularly the reproductive system.

**Objective:** To assess the prevalence of reproductive system health disorders among female military personnel (FMP) depending on the duration of their deployment in combat zones (CZ).

**Methods:** The study included 431 FMP, divided into four groups based on their duration of stay in CZ: Group I (no deployment, 233 women); group II (up to 1 month, 82 women); group III (1–6 months, 69 women); group IV (over 6 months, 47 women). Participants completed an online survey regarding health changes experienced since February 24, 2022.

**Patients:** FMP aged 18–55 years without a history of severe chronic diseases.

**Interventions:** A standardized online survey tool was used to evaluate reproductive health disorders.

**Main Outcome Measure(s):** Identification of the frequency of complaints about reproductive system disorders reported after February 24, 2022.

**Results:** Pain syndrome: The highest frequency of pelvic pain (dysmenorrhea and acyclic pain) was reported by Group III (1–6 months in CZ) – 24 (34.78%), compared to Group II (up to 1 month) – 18 (21.95%) and Group IV (over 6 months) – 9 (19.15%) ( $p < 0.05$ ). Abnormal uterine bleeding: No significant differences between groups. The highest percentage was in Group IV – 10 (21.28%), and the lowest in Group I – 30 (12.88%). Menstrual cycle disorders: The highest percentage of complaints was in Group IV – 31 (65.96%), significantly exceeding the rates in Groups II (37.8%), III (40.58%), and I (33.05%) ( $p < 0.05$ ).

PMS: The highest percentage was among women not deployed in CZ – 33 (14.16%), significantly higher than in Group II – 2 (2.44%).

Multiple complaints: Group IV most frequently reported multiple complaints simultaneously – 47 (44.68%), significantly higher than Group II – 82 (23.17%) ( $p < 0.05$ ). No changes: The lowest rate of no changes in well-being was reported by Group IV – 6 (12.77%) compared to Groups I – 80 (34.22%), II – 29 (35.37%), and III – 18 (26.09%).

**Conclusions:** The study identified the impact of CZ deployment duration on the reproductive health of FMP. Women deployed in CZ for over 6 months were the most vulnerable group. Medical support programs tailored to the needs of women serving under military conditions are urgently needed.

## POSTER SESSION

## P31. Thyroid pathology during pregnancy in georgian population

Panchulidze Lia (GE), Sharashenidze Nino (GE)

**Context:** The incidence of endocrine disorders, particularly thyroid gland(T/G) diseases, has significantly risen in Georgia. These pathologies, especially hypothyroidism, are regional concerns and are linked to severe pregnancy complications and developmental issues in children.

**Objective:** This study aimed to investigate the most frequent T/G pathologies in pregnant women, focusing on hypothyroidism and its prevalence in Georgia.

**Methods:** This retrospective study analyzed the medical histories of 525 pregnant women at “Chachava Clinic”(2021-2023), including 200 diagnosed with hypothyroidism. Diagnostic tests included TSH, FT4, A-TPO, A-TG, and ultrasound when necessary. Data were processed using Microsoft Excel and Statistics for Windows6.

**Patients:** The study included pregnant women aged 18 to 43years, with 64% of participants experiencing repeat pregnancies. This demographic provides a comprehensive view of thyroid health across different stages of pregnancy.

**Intervention:** Comprehensive clinical and laboratory assessments were performed to diagnose T/G disorders. The analysis focused on pregnancy outcomes, including complications related to thyroid dysfunction.

**Main Outcome Measure:** The primary outcomes evaluated were the prevalence of hypothyroidism, the types of thyroid pathologies identified, and the associated pregnancy complications such as premature births and other maternal and fetal health issues.

**Results:** Of diagnosed hypothyroid pregnant women: 61% were found to have autoimmune thyroiditis,39% exhibited T/G hypoplasia. Premature births were reported in51% of cases, with48% being spontaneous miscarriages and 3% resulting in premature labor. Other comorbid conditions included uterine leiomyoma(18%), fibrous mastopathy(17%), various visual impairments(14%), and gynecological disorders(11%). The prevalence of hypothyroidism in this cohort was notably higher at38%, compared to the WHO's(11.4%) or the RCOG(10%)

**Conclusion:** Hypothyroidism is a significant regional issue in Georgia, with a higher prevalence than global averages. Comprehensive screening, beyond routine TSH testing, should include autoimmune thyroiditis, nodular goiter, and T/G hypoplasia. Addressing iodine deficiency with appropriate supplementation during pregnancy and adolescence may reduce T/G dysfunction and related complications. Future research should focus on nationwide screening and individualized iodine supplementation to mitigate hypothyroidism and improve pregnancy outcomes.

## POSTER SESSION

## P32. Infertility in Polycystic Ovary Syndrome: What Is the True Underlying Cause?

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Infertility is a common concern in women with polycystic ovary syndrome (PCOS), a condition that affects reproductive health due to hormonal imbalances and insulin resistance.

Case report: A 27-year-old female was referred to an endocrinologist for infertility evaluation. She had menarche at age 14, with menstrual cycles occurring every 30 to 40 days, lasting 4 to 5 days, with normal, non-painful bleeding. She had a history of acne and polycystic ovary morphology. For 10 years, she was treated with oral contraceptives. At age 25, she started metformin for insulin resistance related to PCOS. A year before the consultation, oral contraceptives were discontinued to plan a pregnancy. Since then, she continued metformin and experienced regular cycles every 30 to 40 days. Her husband's sperm analysis was normal. On examination, she had a gynoid body type, normal weight, and occasional acne. She was not hirsute, and there were no signs of virilization or hypercortisolism. Hormonal analyses revealed an LH/FSH ratio of 14.3/6.1 IU/l, consistent with PCOS, with a borderline elevated androstenedione level (3.2 ng/ml) and a basal 17OH progesterone level of 9.1 nmol/l. A two-day low-dose dexamethasone suppression test showed appropriate cortisol and 17OH progesterone suppression. In the 60-minute Synacthen test, 17OH progesterone was elevated at 42.1 nmol/l, with a suboptimal increase in cortisol (453 nmol/l). These results led to a diagnosis of non-classical congenital adrenal hyperplasia (NCCAH). Genetic testing confirmed a normal female karyotype and identified two mutations (p.V281L and p.P453S), associated with NCCAH. No mutations were found in her partner. The patient was started on Prednisone 2.5 mg daily. After four months, her menstrual cycles became regular at 28 days, and she spontaneously conceived. She did not develop gestational diabetes and delivered vaginally at term, giving birth to a healthy girl without masculinization.

This case highlights the importance of considering additional endocrine disorders, such as NCCAH, in patients with infertility and PCOS, leading to effective management and successful pregnancy outcomes.

## POSTER SESSION

## P33. Characterization of heart rate and R-R interval obtained by smartwatch during follicular, luteal, and menstrual phases to track the menstrual cycle.

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**Background:** Many women experience both mental and physical discomfort throughout their menstrual cycles. Autonomic nervous system activity is believed to contribute to these symptoms, with fluctuations observed across the cycle. Although some studies have reported heart rate (HR) and R-R intervals (RRI) across menstrual phases using electrocardiograms or photoplethysmography (PPG), the use of smartwatches for continuous monitoring throughout the menstrual cycle remains an emerging field.

**Objective:** This study aimed to measure HR and RRI using a smartwatch during the follicular, luteal, and menstrual phases, with the goal of identifying distinct characteristics that differentiate each phase based on these metrics.

**Methods:** The study involved two experiments. The first compared HR and RRI data collected from a smartwatch with data obtained from PPG to validate the smartwatch's accuracy. The second involved continuous measurement of HR and RRI over a two-week period using the smartwatch.

In the first experiment, HR and RRI were recorded for 5 minutes from seated participants using a Garmin vivosmart 4 smartwatch and an Inner Balance Scan PPG. Data were evaluated using the concordance correlation coefficient (CCC). In the second experiment, 20 female wore the smartwatches for two weeks. HR and RRI values were calculated for each menstrual phase. Friedman tests with Bonferroni's post-test were used to compare HR and RRI values across the phases. Ethics approval was obtained from the University of Tsukuba (1776-3).

**Results & Discussion:** The CCC between the smartwatch and PPG was .994 for HR and .998 for RRI, indicating a high level of correlation. These findings suggest that the smartwatch provides HR and RRI data with accuracy comparable to that obtained from PPG. The HR during the luteal, menstrual, and follicular phases were 73.0, 71.0, and 70.0 bpm, respectively, with significant differences observed across the phases ( $p = .01$ ). RRI values were 822.5, 842.1, and 851.1 ms for the luteal, menstrual, and follicular phases, respectively, also demonstrating significant differences. The increase in HR and decrease in RRI during the luteal phase can be attributed to the activation of the sympathetic nervous system by progesterone, which aligns with established physiological responses.

**Conclusion:** These results suggest that the smartwatch holds potential for accurately predicting menstrual phases based on physiological data comparable to that obtained from PPG.

## POSTER SESSION

## P34. Impact of liver function on the clinical presentation of PCOS

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Non-communicable diseases, including metabolic syndrome (MS), are becoming universally prevalent, no longer a direct consequence of classical models of unhealthy lifestyles. This is due to the growing role of their epigenetic nature in combination with environmental factors. Polycystic ovary syndrome (PCOS) is an example of a highly prevalent non-communicable pathology with variable clinical manifestations, but a strong association with cardiometabolic risks. Metabolically associated steatotic liver disease (MASLD) previously known as NAFLD is another non-communicable disease with increasing frequency (from 15% in 2005 to 25% in 2010). In 2023 EASL introduced a new classification of steatotic liver disease. It depicts the possibility of the coexistence of different etiological factors of steatosis without typical cardiometabolic risk factors. MASLD frequency is increased in obese and lean women with PCOS. Because the etiology and pathogenesis of PCOS and MASLD are not known management of these conditions is mostly symptomatic. At the same time, the presence of common risk factors and certain pathogenetic mechanisms creates the perspective of improving the effectiveness of their management based on a combined approach to scientific research and implementation of its results in medical practice.

Analysis of literature sources and our clinical observations leads us to the conclusion that interconnections between PCOS and MASLD are bilateral. Still, we state that in most cases PCOS is the primary trigger of liver steatosis formation in overweight and lean women with PCOS due to hyperandrogenism. Later, MASLD exacerbates endocrine disorders associated with PCOS (ovulatory dysfunction, ovarian androgen excess, and free androgen fraction) via decreased insulin clearance and sex-steroid-binding globulin synthesis. Ongoing liver dysfunction contributes to dyslipidemia, dysglycemia, and consequently metabolic syndrome.

Thus, early detection and management of MASLD in PCOS patients irrespective of the presence of obesity may facilitate PCOS symptom management and prevent metabolic complications.

## POSTER SESSION

## P35. Multiple Primary Malignant Neoplasms; ovarian, endometrial and breast cancer: a case report

Dr. med. Akyol Nurgül (DE), Dr. med. Görner Uwe (DE), Dr. med. Ruhwedel Wencke (DE), Pavel Anda Florentina (DE)

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**Introduction:** Multiple Primary Malignant Neoplasms (MPMNs) are rare and can be classified as synchronous, when the tumors appear simultaneously or within 6 months from each other, or metachronous, when they are identified 6 months or more from the initial cancer diagnosis.

**Case report:** We present the case of a 57-year-old female patient who initially presented in our clinic with the suspicion of breast cancer and an ovary tumor. The breast ultrasound revealed a 3 cm tumor in the left breast, which was biopsied and showed a hormone receptor positive invasive breast carcinoma. A computer tomography (CT) scan of the abdomen and thorax showed a large ovarian mass, highly susceptible for ovarian cancer. The patient underwent an exploratory laparotomy with the purpose to achieve a complete resection. The histology revealed bilateral ovarian cancer and also endometrial cancer. The final diagnosis was a triple malignancy: bilateral high grade endometrioid ovarian cancer FIGO IIB, endometrioid adenocarcinoma of the endometrium pT1a and an invasive breast carcinoma with DCIS association cT2, cN0, G2. The case was presented to our Cancer Board and the patient received chemotherapy with paclitaxel, carboplatin and pembrolizumab (as adjuvant therapy for the ovarian cancer and neoadjuvant therapy for the breast cancer) and also brachytherapie for the endometrial cancer. After completing the chemotherapy the patient underwent a breast-conserving surgery with sentinel lymph node biopsy (positive for tumor cells) and axillary dissection. The patient is now under adjuvant therapy consisting of trastuzumab-emtansine (T-DM1), aromatase-inhibitors (exemestane) and radiotherapy of the breast and axilla.

**Clinical discussion and conclusion:** Based on literature review and our experience as a gynecology-oncology center the occurrence of breast carcinoma synchronous with ovarian and endometrial cancer is rare. The etiology is complex and the treatment usually includes a combination of chemotherapy, radiotherapy and surgery. This case report contributes to the limited literature on multiple primary malignant neoplasms. To increase awareness and reduce mortality and morbidity it is important to document these cases.

**Key words:** ovarian cancer, endometrial cancer, breast cancer, synchronous tumors, malignancy

## POSTER SESSION

## P36. Risk of neoplasm with fezolinetant: summary of clinical trials and regulatory documents

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**Background:** Fezolinetant, a neurokinin 3 antagonist approved by the FDA and EMA for managing vasomotor symptoms in menopausal women, has shown efficacy in clinical trials. Even if its efficacy has been demonstrated during the clinical development, the occurrence of numerous cases of neoplasms in SKYLIGHT-1, SKYLIGHT-2, SKYLIGHT-4, MOONLIGHT-1, and MOONLIGHT-3 trials raised concerns regarding its safety and necessitates further examination.

**Methods:** A search was conducted on EudraCT and ClinicalTrials.gov to identify all results related to fezolinetant. An additional hand search has been performed in regulatory documents from the FDA and the EMA to gather a maximum of information related to these neoplasm cases.

**Results:** We identified five studies (SKYLIGHT-1, SKYLIGHT-2, SKYLIGHT-4, MOONLIGHT-1 and MOONLIGHT-3) that reported neoplasm cases in the databases. SKYLIGHT studies were conducted in the US and Europe, and MOONLIGHT studies in Asia, both in a period of 52 weeks. Detailed case information on neoplasms was found in the FDA Clinical Reviews and EPAR documents for the SKYLIGHT studies. There is a discordance for SKYLIGHT studies between published literature and public reports. Public reports revealed 2/952 (0.21%), 7/1103 (0.64%) and 16/1100 (1.46%) cases of neoplasms for the placebo, fezolinetant 30mg and 45mg, respectively. However, no case of neoplasm was disclosed in the published literature. In contrast, MOONLIGHT trials explicitly reported 10/433 (2.31%) neoplasm cases with fezolinetant 30mg in published literature. These rates exceed the typical incidence observed in the general population.

**Discussion:** The results from the SKYLIGHT and MOONLIGHT trials indicate a potentially increased risk of neoplasms. Additionally, the FDA and EMA warn of rare but serious drug-induced liver injury (DILI) associated with fezolinetant use. These data raise concerns about the safety profile and its use for menopausal vasomotor symptoms. Further research must be conducted to evaluate the risk-benefit balance of fezolinetant for the relief of vasomotor symptoms.

**Conclusion:** The data extracted highlight a significant association between fezolinetant and an increased neoplasm incidence in menopausal women. This necessitates further investigation into the distribution and signaling pathways of neurokinins to identify a potential causal association.

**Keywords:** Fezolinetant, neoplasm, menopausal women, SKYLIGHT, MOONLIGHT, neurokinin 3 antagonist, safety evaluation.



## POSTER SESSION

## P37. Effect of Doxorubicin and Mulberry Extract on Reactive Species Generation and Nuclear Rupture in Ovarian Cancer Cells

Carroll Joseph (US), Cartier Anna (US), Del Vecchio Lyla (US), Delano Alexandra (US), Kartsagoulis Angelika (US), Kuran Benjamin (US), Lautato Patrick (US), Wan Yinsheng (US)

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**Context:** This project investigated the cellular effects of Doxorubicin (DOX), compared to oxidant-rich mulberry extracts (ME), a holistic approach to possible cancer inhibition. Research focused on DOX and ME interaction with the cytoskeleton, mitochondria, and the nucleus in CaOV3 cells.

**Objective:** The study focused on DOX/ME impact on Reactive Oxygen Species (ROS) generation, functionality of the mitochondria, and the physical integrity of the nucleus, by examining the cellular mechanisms through which DOX/ME damage CaOV3 cells.

**Methods:** This study utilized cell culture, treatment with various agents, confocal microscopy, and flow cytometry. Cultured CaOV3 cells were treated with DOX and H<sub>2</sub>O<sub>2</sub>. N-acetylcysteine (NAC) was added as an ROS scavenger to observe the effects of the oxidative stress and integrity of the cells. CaOV3 cells were also treated with ME for AMPK $\alpha$  and p53 activities.

**Intervention(s):** CaOV3 cancer cells were treated with DOX to generate ROS and test effects on the cells' cellular structure. NAC was used to reduce ROS levels to counteract the stresses caused by DOX and H<sub>2</sub>O<sub>2</sub> to analyze the generation of ROS and micronuclear rupture. Another set of CaOV3 cancer cells were treated with ME.

**Main Outcome Measure(s):** Our data supports the notion that NAC at low concentration effectively scavenges ROS, which in turn, protects the stability of the cell and reduces the toxic effects of cancer drugs like DOX. ME, at high concentration, showed the inhibition of mitochondrial activity which may decrease cell migration of ovarian cancer cells.

**Result(s):** DOX and H<sub>2</sub>O<sub>2</sub> showed an increased ability to cause damage to the CaOV3 cells, attenuated by NAC at low concentration. In addition, our data suggests that ME served as a strong antioxidant, at high dose, enhancing DOX efficacy. Both methods successfully inhibited cancer growth and enhanced the effects of treatment on cellular structural integrity.

**Conclusions:** The study provided insight into the effects of DOX on localization, ROS production, and nuclear integrity on ovarian cancer cells. The effects of ME at high concentration showed downregulation of mitochondrial, metabolic, and transcriptional activity. NAC at low concentration had a strongly attenuative effect on both DOX and H<sub>2</sub>O<sub>2</sub>, which supports the claim that its intervention helps mitigate DOX-induced cell damage.

## POSTER SESSION

## **P38. Prediction of Risk Factors for Endometrial Second Primary Cancer Using AI Models**

Chang Chi-Chang (TW)

This study aims to model the risk factors for Thailand's endometrial second primary cancer. The clinical characteristics of secondary cancers are known from hospital data and at the same time provide the probability of secondary cancer in patients with these characteristics to doctors. These data include clinical data on 800 Thai patients with endometrial cancer, 43 of whom developed secondary cancer. To avoid overadaptation of most data, the data imbalance problem has been solved using the SMOTE algorithm. After data preprocessing, various AI models such as DecisionTable, J-Rip, SimpleLogistic, J48, RandomForest and LNT were deployed to predict risk factors. Finally, the risk factors were further analysed using the SHAP algorithm, so that the importance of the risk factors could be clearly described. The experiments were conducted with a 10-fold training/test policy for all AI models, including DecisionTable, J-Rip, SimpleLogistic, J48, RandomForest and LNT. We conducted a multi-factor analysis by a single factor and a single factor analysis to find more influential factors, and also identified only specific factors for analysis. We achieved 97% accuracy in simple logistic and LMT single-factor analysis, 92%-93% in J-Rip and J48 multi-factor analysis, and 94% in RandomForest analysis. Age at the beginning, menopausal status and adj-chemo have also been found to be very influential factors. These should be the most important clinical characteristics for physicians to screen patients for second cancer.

## POSTER SESSION

## P39. Assessment of myometrial invasion in endometrial cancer

Cuadra Maria (ES), Gondra Jone (ES), Hernando Amaia (ES), Perez Isabel (ES), Rivera Marta (ES)

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### Context and Objective:

Endometrial cancer (EC) is the most common malignant gynaecological tumour in Spain. Recently, there have been significant advances in diagnosis and treatment of EC due to the new molecular classification. However, myometrial invasion (MI) degree remains important in defining different risk groups and consequently, in determining the best treatment to follow. Among the imaging tests available for the assessment of MI (ultrasound (US) and MRI), there is no established gold standard.

### Methods:

We have carried out a retrospective, descriptive study on the use of MRI and ultrasound in our hospital for the assessment of MI in EC in the period between October, 2021 and September, 2024.

### Results:

A total of 78 women were studied: with a mean age was of 64 years (38-88), a mean BMI of 31 (19-49), and an average parity of 1.5 (0-6), 33% of the patients being nulliparous.

In relation to the histological type and grade (prior to surgery): 93.6% were endometrioid (3.8% endometrioid/serous, 1.3% mesonephric, 1.3% carcinosarcoma) and 76.9% G1 (11.5% G2, 9% G2-G3, 1.3% G3, 1.3% G1-G2).

MRI results regarding to identify MI >50%: we found a sensitivity of 62%, specificity 98%, PPV 93% and NPV 87%. Regarding to the variables studied, neither uterine pathology, BMI, uterine surgeries nor uterine position affected accuracy rate significantly.

Concerning to US results, we found a sensitivity of 48%, specificity 84%, PPV 53%, and NPV 81%. With respect to the variables studied, neither uterine pathology, uterine surgeries nor uterine position affected accuracy rate significantly. However, the BMI did (p 0,007).

### Conclusions:

According to the most recent studies, sensitivity and specificity of ultrasound and MRI are comparable for assessing MI in EC, being US more cost-effective. In our centre, US achieved similar specificity to that reported in the literature (87% vs 84%), although not sensitivity. Regarding to MRI, it showed higher specificity than reported in studies (98% vs 84%), but lower sensitivity (62% vs 81%), this indicates a greater ease to identify MI <50% (MI >50% being less common: 27% vs 73%). At present, in our centre, MRI remains more specific and sensitive. Moreover, among the variables studied, none affected the accuracy rate of MRI. However, BMI did affect US. Taking this into account, we have established a fixed and smaller group of sonographers for the assessment of MI prior to analyse the results again.

## POSTER SESSION

## P40. Carcinomatous Lymphangitis in Breast Cancer Progression

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**Introduction:** Carcinomatous lymphangitis is a rare condition with a very poor prognosis and challenging treatment. It represents an aggressive and rapidly progressing disease with specific clinical and radiological features that is often fatal. It accounts for approximately 6–8% of all cases of lung metastases. The most common primary sites are the breast, lungs, stomach, cervix, and ovarian neoplasms. The clinical course may involve rapid and fatal deterioration. **Case Report:** A 55-year-old woman, postmenopausal (menopausal for five years), sought care from a general practitioner, reporting the onset of left upper limb edema 30 days prior. She denied any family history of breast cancer, weighed 65 kg, and had a sedentary lifestyle. Nulliparous, she denied alcohol and tobacco use. Due to significant left upper limb edema, she was referred to a vascular specialist, who ordered a pulmonary CT scan. The scan revealed carcinomatous lymphangitis with significant pulmonary involvement. On physical examination, mild crackles were detected in both lung bases. The patient did not exhibit dyspnea at the time and was referred to a gynecologist. She reported that she had never undergone a breast examination. Ectoscopy revealed asymmetrical breasts, with the left breast being smaller, showing significant retraction and pigmentation, and a hardened nodule in the upper lateral quadrant. She had never had a mammogram and could not specify how long she had had the nodule. A core biopsy of the left breast was recommended. Two days later, the patient returned with tachypnea, reporting difficulty to sleep. Hospitalization was advised but she refused. She passed away two days later. **Discussion and Conclusion:** The diagnosis of pulmonary carcinomatous lymphangitis is associated with a poor prognosis, with approximately half of the patients dying within two months of the onset of respiratory symptoms. Breast carcinoma is the most common primary tumor associated with this condition. Once it develops, clinical deterioration is rapid, reflecting both the aggressive progression of the disease and the consequences of pulmonary infiltration, which conventional therapy often fails to overcome.

## POSTER SESSION

## P41. Small bowel obstruction masking a perforated ovarian cyst.

Giotas Amyntas (GR), Gkogkos Christos (GR), Kantas Panagiotis (GR), Kountouri Ismini (GR), Petikidis Dimitrios (GR), Tsaitas Vasileios (GR)

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### Context

Small bowel obstruction masking a perforated ovarian cyst.

### Objective

To present a case of a 58 year – old patient with small bowel obstruction due to an ovarian cyst perforation.

### Methods

We reviewed the international literature regarding cases of patients with small bowel obstruction masking a perforated ovarian cyst.

#### Patient

A 58 year-old female patient presented at the Emergency Department of General Hospital of Katerini, complaining of abdominal pain, vomiting and constipation. Physical examination of the patient revealed abdominal distension, guarding, generalized rigidity and rebound tenderness. The patient underwent a CT scan, which revealed two abscess cavities, generalized distension of her small bowel, a large cystic mass in her right ovary and multiple peritoneal implants. The diagnosis of ovarian cancer and generalized peritoneal carcinomatosis was initially made. The patient was treated conservatively. Two days later, she underwent a second abdominal CT- scan, which again demonstrated distended small bowel loops. After discussions with the patient and her family, the patient was taken for a diagnostic and therapeutic laparotomy.

#### Intervention

During laparotomy, generalized peritonitis with a large amount of free purulent fluid were identified. The small bowel was significantly dilated due to obstruction from the multiple inflammatory adhesions. Two abscess cavities were identified. The adhesions were dissolved and the peritoneal cavity was further explored. No signs of peritoneal carcinomatosis were discovered, while a cystic formation protruding from the right ovary was identified with a rupture point on its wall through which purulent fluid was leaking. A lavage of the peritoneal cavity and a resection of the cystic formation were performed.

#### Main Outcome Measure

The patient had an unremarked post operative course.

#### Results

The histopathology results revealed a complicated right ovarian cyst.

#### Conclusions

The escaped fluid from a ruptured ovarian cyst can lead to purulent peritonitis and thickening of the peritoneum and thus lead to the misdiagnosis of peritoneal carcinomatosis, when in reality the patient may be suffering from bowel obstruction due to the multiple inflammatory adhesions. Even with all the limitations this case report demonstrates a rare cause of bowel obstruction that all health-care providers should consider in the differential diagnosis of patients with relative clinical and radiological findings.

## POSTER SESSION

## P42. Minilaparotomy Myomectomy in Symptomatic Uterine Fibroids

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### Context

Uterine fibroids are common benign tumors in women of reproductive age, often causing symptoms like abnormal bleeding, pelvic pain, and infertility. Minilaparotomy myomectomy offers a minimally invasive alternative to traditional surgical approaches.

### Objective

The aim of this study was evaluate the safety, efficacy, and clinical outcomes of myomectomy performed via minilaparotomy in patients with symptomatic uterine fibroids.

### Methods

This retrospective study was conducted from January 2022 and September 2024, including a total of 146 women who underwent minilaparotomy myomectomy for symptomatic uterine fibroids.

### Patient(s)

Patients included were premenopausal women aged 25–45 years with symptomatic fibroids causing abnormal uterine bleeding, pelvic pain, or infertility, with at least 4 fibroids, of which at least one measured more than 5 cm. Exclusion criteria included severe pelvic adhesions or coexisting severe medical conditions.

### Intervention(s)

Myomectomy was performed through a small abdominal incision (<5 cm) under general anesthesia. The injection of diluted adrenaline and layered uterine closure minimized bleeding and supported uterine repair.

### Main Outcome Measure(s)

Primary outcomes included mean operative time, intraoperative blood loss, complication rates, and hospital stay duration. Secondary outcomes included time to resumption of normal activity and reproductive outcomes for patients seeking fertility.

### Result(s)

The mean fibroid size among included patients was 5.3 cm (range: 3–10 cm).

The mean operative time was 65 minutes (range: 50–117 minutes) and mean intraoperative blood loss was 150 mL (range: 100–300 mL). The overall complication rate was 4.8%, including minor wound infections (2%) and transient fever (1.5%). The mean hospital stay was 2.5 days (range: 1–4 days), and most patients resumed normal activities within 14 days. Among women attempting conception post-surgery, the pregnancy rate was 30%, with live birth rates reported at 40% within 2 years.

### Conclusions

Minilaparotomy myomectomy is a safe and effective procedure for managing symptomatic uterine fibroids. It offers shorter operative times, minimal blood loss, and faster recovery with favorable reproductive outcomes. These findings support its role as a minimally invasive alternative for uterine fibroid management.

## POSTER SESSION

## P43. Leiomyomatosis associated with reed syndrome - a case report

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**INTRODUCTION:** Reed Syndrome (RS), also known as Multiple Cutaneous Uterine Leiomyomatosis (MCUL) and leiomyomatosis cutis et uteri, is an autosomal dominant disease, initially characterized by cutaneous leiomyomas of pilary origin in both sexes and uterine leiomyomas in women. This disease has a genetic background and has a variant linked to the development of Papillary Renal Cell Carcinoma Type 2 (PRCC), as well as leiomyosarcoma. The aim of this report is to describe a case and to highlight a topic rarely discussed in the field of Gynecology and Obstetrics.

**CASE REPORT:** P.C.V, 35 years old, was seen at the gynecological surgery clinic at the end of 2023 for evaluation due to uterine fibroids. Upon starting the follow-up, she presented with significant lower abdominal pain and abnormal uterine bleeding. The transvaginal ultrasound showed the uterus with a volume of 330 cm<sup>3</sup>, and a hypoechoic image with a volume of 2000 cm<sup>3</sup> and the MRI showed an enlarged uterus measuring 15x15x11cm, pelvic varices and uterine fibroids. When asked about reproductive planning, the patient

expressed a desire to conceive. The myomectomy was performed on 12/27/2023 and a 488 g fibroid was removed. The histopathological diagnosis revealed a pleomorphic fusocellular neoplasm with a low mitotic index. An investigation followed through immunohistochemical analysis, which revealed a leiomyoma with fumarate hydratase deficiency. The patient was then referred to the oncology surgery

department for joint follow-up.

**DISCUSSION:** Reed Syndrome is an autosomal dominant disease with incomplete penetrance, manifested by cutaneous leiomyomas, appearing as skin-colored or pinkish-brown nodules, ranging in size from 0.2 to 2.0 cm, with varied morphology, related to the arrector pili muscle and also the uterine muscle in the form of uterine leiomyomas. As a genetic disorder linked to mutations in the FH gene, it leads to the suppression of fumarate hydratase enzyme formation. An association between this syndrome and papillary renal cell carcinoma has been observed. There's an increased incidence of renal cell carcinoma in patients with cutaneous and uterine leiomyomatosis. The most common type is papillary renal carcinoma type 2.

### CONCLUSION

Reed Syndrome presents as a potentially serious genetic disease for those affected by the genetic mutation and it's recommended to offer genetic counseling to patients and their families.

## POSTER SESSION

## P44. Feasibility of minimal invasive surgery in a morbidly obese patient with large myomatous uterus

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**Context:** Minimally invasive surgery in morbidly obese patients with large myomatous uterus is challenging, as it presents demanding technical and anatomical situations, requiring careful preoperative planning and advanced surgical expertise.

**Objective:** To evaluate the feasibility, safety and clinical outcomes of minimally invasive surgery in a morbidly obese patient with a large myomatous uterus.

**Methods:** A case report is presented detailing preoperative assessment, surgical technique, intraoperative management and postoperative outcomes in a morbidly obese patient undergoing minimally invasive hysterectomy for a large myomatous uterus.

**Patient:** A 52 year-old morbidly obese woman (BMI 41.32 kg/m<sup>2</sup>) presented with symptomatic fibroids, including heavy menstrual bleeding and growing uterine fibroids.

**Intervention:** Laparoscopic subtotal hysterectomy with in-bag power morcellation was performed, incorporating specialised techniques to overcome challenges associated with obesity, including patient positioning, trocar placement and tissue extraction. The weight of myomatous uterus was 1,2 kg.

**Main outcome measures:** Feasibility of laparoscopic approach, operative time, estimated blood loss, intraoperative complications, length of hospital stay, postoperative recovery and patient satisfaction.

**Results:** The laparoscopic procedure was completed successfully without conversion to laparotomy. Operative time was 120 minutes, with an estimated blood loss of 100 ml. No intraoperative complications occurred. The patient was discharged on postoperative day 2 and recovery was uneventful, with resolution of preoperative symptoms and high patient satisfaction.

**Conclusions:** Minimally invasive surgery is feasible and safe in morbidly obese patients with a large myomatous uterus when performed by an experienced surgical team. Adequate preoperative preparation, use of advanced laparoscopic techniques and individualised surgical planning are essential to optimise outcomes and minimise complications in the high-risk population.



## POSTER SESSION

## P45. The role of laparoscopy in challenging clinical situation dealing with huge myomatous uterus

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**Context:** laparoscopy is used in gynaecologic surgery due to its minimally invasive approach and enhanced recovery benefits. However, managing a huge myomatous uterus poses significant technical and anatomical challenges, making laparoscopic surgery difficult yet feasible with advanced skills and techniques.

**Objective:** to assess the feasibility, safety and efficacy of laparoscopy in the surgical management of a huge myomatous uterus, emphasizing outcomes and challenges encountered during the procedure.

**Methods:** a case report of a patient with a huge myomatous uterus who underwent laparoscopic surgery. Clinical evaluation, surgical intervention and postoperative outcomes were reviewed.

**Patient:** A 39-year-old female presented with progressive abdominal distension, pelvic pain and heavy menstrual bleeding. Physical examination revealed a distended abdomen mimicking a late-term pregnancy. MRI and US confirmed a large intramural leiomyoma measuring over 25 cm, with associated mass effect on adjacent abdominal structures and showed no signs of malignancy. The patient expressed her desire for a minimal invasive surgical approach. Preoperative preparation included correction of anemia with intravenous iron supplementation and blood transfusion.

**Intervention:** Laparoscopic subtotal hysterectomy with in-bag abdominal manual morcellation was performed using advanced surgical techniques, including uterine artery ligation and in-bag abdominal manual morcellation for specimen retrieval. Myomatous uterus weighed 2,2 kg.

**Main outcome measures:** Operative time, blood loss, intraoperative complications, length of hospital stay, postoperative recovery and patient satisfaction.

**Results:** the surgery was successfully completed laparoscopically. Total operative time was 150 minutes, with an estimated blood loss of 700 ml. No intraoperative or immediate postoperative complications occurred. The patient was discharged on postoperative day 2 and experienced an uneventful recovery with minimal pain and early return to normal activities.

**Conclusions:** laparoscopy is a viable and effective option for managing a huge myomatous uterus in skilled hands. Despite the inherent challenges, it offers significant benefits in terms of reduced morbidity, shorter hospital stay and faster recovery compared to traditional open surgery. Proper case selection, preoperative planning and surgical expertise are critical to achieving optimal outcomes.

## POSTER SESSION

## P46. “Sandwich” technique for the Management of Chronic Hemorrhagic Cervicitis

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**Context:** Chronic hemorrhagic cervicitis is characterized by inflammation of the cervix, commonly resulting from an infection. When symptoms arise, particularly bleeding dyspareunia and chronic heavy discharge, patients typically seek treatment. Therapeutic approaches primarily involve antibiotic treatment, either as a standalone therapy or in combination with additional procedure.

**Objective:** This study aims to evaluate the effectiveness of a combined treatment approach involving antibiotics, cryosurgery and a subsequent course of antibiotics in managing chronic hemorrhagic cervicitis in patients who failed with antibiotics alone. This “sandwich” technique should be particularly efficient in cases of resistance to the standard therapy.

**Methods:** Data for this study were collected between January 2020 and January 2024 from Rea Maternity Hospital in Athens, Greece and University Hospital of Alexandroupolis in Alexandroupolis, Greece. The study included 21 women with a mean age of 38 years old. All participants were diagnosed with chronic hemorrhagic cervicitis based on clinical evaluation, cytology and vaginal culture. All patients underwent antibiotic therapy with Doxycyclin for 10 days, followed by cryocoagulation due to persistent symptoms. Post-cryosurgery, an additional course of Doxycyclin for 10 days was given as a sandwich technique.

**Results:** Most participants showed significant improvement following this method. Clinical progress was observed in 18 of 21 women (85.7%), while normalization of Pap smear test results was noted in 16 of 21 women (76.2%). In 5 patients (23.8%), cervicitis persisted, necessitating two additional rounds of antibiotics with a one-month interval, and was effective in 3 of 5 cases. The remaining 2 patients underwent a second cryosurgery after one year, successfully resolving their condition. Notably, all 5 women who did not respond effectively to cryosurgery had a higher parity.

**Conclusion:** The “sandwich” technique is an efficient therapeutic procedure in the treatment of chronic hemorrhagic cervicitis. However, further research should confirm it and evaluate the long-term efficacy of this therapeutic approach.

## POSTER SESSION

## P47. Guillain Barré syndrome and pregnancy: a case report

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**Context:** Guillain-Barré syndrome (GBS) is an autoimmune demyelinating polyradiculoneuropathy acquired usually after an infection. It has an incidence of 0.62 to 2.66 cases per 100,000 population/year, and mortality of 5%. It progresses rapidly, reaching peak disability within 2 weeks, with a recovery time of up to 6 months. It more commonly occurs in the 3rd trimester and early puerperium. Objective: to report a case of GBS in a pregnant woman. Method: Retrospective medical record analysis.

**Patient:** 32-year-old woman on her third pregnancy, with one previous cesarean and one miscarriage, GA of 35 weeks and 5 days, was admitted with vomiting, diarrhea, and fever, onset was 10 days prior, followed by increasing and progressive loss of strength in lower limbs, associated with dyspnea and dysphonia. Upon examination, the patient was in poor general condition, tachycardia, subfebrile, dyspneic, pale, dehydrated, with decreased strength in the upper limbs, and flaccid paresis in the lower limbs with 0/5 strength grade, patellar reflexes were absent with preserved sensitivity. Obstetric examination presented no particularities. Intervention: Pregnancy was ended via cesarean section under general anesthesia. Newborn was in good condition. After immediate postoperative extubation, the patient was sent to the ICU. CSF puncture showed proteinorachia and absence of cells. She was started on immunoglobulin. On the 1st day of hospitalization, respiratory failure, orotracheal intubation, hemodynamic instability, vasoactive drug was initiated. Infection worsened, presenting pleural effusion and chest drainage; Tazocin was started and, later, Meropenem and Vancomycin due to pneumonia; acute kidney injury dialysis. Main Outcome: Patient was weaned from ventilation on the 29th day and discharged from the ICU. Result: The immediate clinical suspicion and early initiation of immunotherapy enabled rapid motor recovery and weaning from mechanical ventilation. Conclusion: Among peripheral neuropathies, GBS is the leading cause of respiratory paralysis, and its mortality, despite treatment, reaches 20%, with an increase of 10-13% during pregnancy. We emphasize the importance of early diagnosis, since in the initial phases of the disease the symptoms are nonspecific. Assessing and heeding patient's complaints and clinical condition continue to be the best tools for reducing maternal and fetal morbidity and mortality associated with the condition.

## POSTER SESSION

## P48. The evaluation of treatment protocols used for managing preterm premature rupture of membranes

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**Context:** Preterm premature rupture of membranes (PPROM) is a condition that complicates around 3% of pregnancies.

**Objective:** The purpose of this study is to evaluate the treatment protocols used for managing PPRM and to assess the maternal and neonatal outcomes.

**Methods:** A hospital-based case-control study design was implemented on 69 samples (35 controls and 34 cases) from pregnant mothers between 2020 and 2024. The parameters of the course of pregnancy, childbirth, and the outcome of childbirth of patients with PPRM and those in the control group were compared. A binary logistic regression model was used to examine the association between dependent and independent variables, and multivariable logistic regression was used to identify the independent predictors of premature rupture of membranes, with a 95% confidence interval. Statistical significance was declared at  $P < 0.05$ .

**Results:** Compared to the control group, pregnant women with PPRM exhibited significant differences: lower gestational age at delivery, extended time from water breaking to delivery, higher vaginal pH, altered biophysical profiles (low AFI and fetal tachycardia), and elevated CRP and WBC levels in the blood. Additionally, post-delivery, women with PPRM had longer hospital stays. Newborns in the study group showed significant prematurity-related outcomes: gestational immaturity, lower birth weight, lower APGAR scores, and a notably higher number of newborns required referral to specialized institutions for further treatment. Regarding labor completion in PPRM cases, pregnant women in the expectant period (from the 28th to the 34th gestational week) received more intensive treatments, including dual antibiotics, tocolytics, and corticosteroids. A higher proportion of PPRM pregnancies, accompanied by comorbidities and unfavorable fetal positioning, resulted in cesarean section deliveries.

**Conclusion:** A precise diagnosis of PPRM is essential for the safe and effective management of this pregnancy complication. Though, there remains a lack of sufficient evidence to recommend the best testing methods and the ideal frequency for diagnosing and monitoring PPRM cases. Additionally, the best management strategy and timing of delivery in PPRM cases remain unclear. Pregnancies complicated by PPRM continue to exhibit a significant rate of neonatal respiratory distress, with uncertain outcomes.

## POSTER SESSION

## P49. Association of urinary sodium-potassium ratio with self-reported dietary habits of pregnant women in early pregnancy.

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### Context

In Japan, the age of pregnancy is getting older and the number of high-risk pregnant women is expected to increase, so there is an urgent need to predict and prevent the development of pregnancy-induced hypertension (PIH). We considered that clarifying the association between urinary sodium-potassium ratio, which is considered to be one of the markers of blood pressure in the general adult population, and self-reported dietary habits would help to predict the development of PIH.

### Objective

the aim of this study was to determine the association between self-reported dietary habits and urinary sodium-potassium ratio in women in the first trimester of pregnancy.

### Materials and Methods

#### 1- Subjects

The participants were 230 pregnant women up to 13 weeks' gestation who had taken the prenatal checkups at the cooperating facilities.

#### 2- Survey period

The survey was conducted from May 2016 to December 2018.

#### 3- Methods

The study was explained in writing and orally to pregnant women directly by the nursing staff at the collaborating institutions, and the questionnaires were handed out to the pregnant women. Urinary sodium-potassium ratios were measured using urine samples collected during the urinalysis at prenatal checkups.

### Results

The analysis included 104 of those who provided valid responses.

#### 1) Urinary sodium-potassium ratio in early pregnancy

The mean ( $\pm$  standard deviation) was 3.97 ( $\pm$  2.64) and the median was 3.40, showing no normal distribution. The participants were divided into two groups according to the median urinary sodium-potassium ratio, with 53 in the low group ( $\leq 3.4$ ) and 51 in the high group ( $\geq 3.5$ ).

#### 2) Dietary habits in early pregnancy

The results from the questionnaire showed that 60 (62.5%) of the respondents were seasoning lightly and 39 (37.5%) of the respondents were seasoning salty. Most of the respondents answered that the seasoning lightly.

#### 3) Association between Dietary Habits and Urinary Sodium Potassium Ratio in Early Pregnancy

No significant association was found between seasoning ( $p=0.960$ ), vegetable intake ( $p=0.720$ ), or fruit intake ( $p=0.820$ ) and urinary sodium/potassium ratio in early pregnancy.

### Conclusions

There were no significant associations between seasoning, vegetable intake or fruit intake and urinary sodium-potassium ratio in early pregnancy. The results suggest that dietary guidance based on urinary sodium-potassium ratio, rather than self-reported dietary habits, is valid.

## POSTER SESSION

## P50. Placenta previa Outpatient management instead of planned hospitalization. Optimization of the management algorithm (original study)

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**Relevance.** Women with placenta previa or low-lying placenta are at increased risk of adverse maternal, fetal, and neonatal outcomes, including antepartum hemorrhage, requiring urgent delivery, often before term. A common management strategy for pregnant women with placenta previa is prolonged hospitalization in the second and third trimesters, often after an episode of vaginal bleeding, which is an economic burden on the institution and increases the risk of thromboembolic and infectious complications. Optimization of diagnostics and management protocols has the potential to improve outcomes for the mother and newborn.

**Materials and methods:** A retrospective analysis of birth histories of 21,390 pregnant women at gestational ages 22 to 41 weeks was conducted at the Kyiv Perinatal Center for 2 years and 10 months.

**Results:** 164 women with placenta previa were registered and included in this retrospective analysis. 15 cases of abnormal placenta invasion (placenta accreta) were identified, which accounted for 9.1% of all cases of placenta previa. 50% of pregnant women had a history of uterine surgery, including cesarean section (82 out of 164), assisted reproductive technologies (ART) for pregnancy in 25.5% (42 out of 164). 30% of pregnant women had first births (49 out of 164), repeated births - 70% (115 out of 164). 22% of pregnant women did not have typical risk factors (36 out of 164). Patients who did not have risk factors underwent elective surgery in 74% (121 out of 164). 26% of patients underwent emergency surgery (43 out of 164). In the analysis of cases of emergency cesarean section in terms of up to 28 weeks (5 out of 5), chorioamnionitis was histologically established in 100%. 70% of elective operations are performed with the placenta located on the posterior wall (84 out of 121), and only 30% with the placenta located on the anterior wall (37 out of 121).

**Conclusions:** Based on the analysis, risk factors were identified, on the basis of which it is possible to further distinguish between groups of pregnant women who can be monitored during pregnancy by visits to the obstetrician without a high risk of complications and a group of pregnant women who have been monitored in hospital. A list of recommendations for managing pregnancy with placenta previa and low placentation is proposed, the implementation of which will allow optimizing the criteria for hospitalization of pregnant women with the above diagnoses.

**Key words:** pregnancy, placenta previa, antepartum hemorrhage, preterm labor, cesarean section, chorioamnionitis, placenta accreta.

## POSTER SESSION

## P51. Monitoring antibodies during pregnancy – Do we pay enough attention to RhD-positive mothers?

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**Context and Objective:** This study aimed to examine the frequency of sensitization in mothers whose newborns underwent the exchange transfusion (ET) procedure at the Clinic of Gynecology and Obstetrics, University Clinical Center of Serbia (CGO UCCS), between 2001. and 2023. It also aimed to analyze trends during the study period and highlight the importance of phenotyping, identification and monitoring of antibody titers in both Rh-negative and Rh-positive pregnant women.

**Methods:** The study was conducted as a retrospective analysis. Data were collected from medical records, obstetric and pediatric protocols and transfusion service records.

**Results:** A total of 206 ET procedures were performed, of which 138 (67%) were due to maternal sensitization. In our study, the most common cause of hemolytic disease of the newborn (HDN) was the D antigen, accounting for 65.9% of cases. Anti-c and anti-K antibodies caused maternal sensitization in only 5.1% of cases. More than one antigen combined with the D antigen accounted for 19.9% of cases, while ABO incompatibility was the cause in 9.1% of cases. Among individual causes of maternal sensitization, the most frequent was the D antigen, while the rarest was the K antigen. The average titer of anti-D antibodies in the serum of sensitized mothers was 128 (range 32–2048). Of the 151 RhD-negative mothers, 124 (82.1%) were sensitized, whereas only 13 (25.5%) of the 51 RhD-positive mothers were sensitized. From the total number of neonates, 138 (67%) underwent ET due to HDN caused by maternal sensitization to red blood cell antigens, while 67 (33%) didn't experience sensitization. The most common antibody responsible was anti-D, while the rarest was anti-K. Among the 138 neonates with HDN, ET was most often performed due to maternal sensitization to the RhD antigen in 91 (65.9%) cases. This was followed by sensitization involving anti-D combined with other antibodies in 29 (19.9%) cases and ABO incompatibility in 11 (9.1%) cases. Of the 151 RhD-negative mothers, 124 (82.1%) were sensitized, while 13 (25.5%) of the 51 RhD-positive mothers were sensitized. Sensitization was significantly more common in RhD-negative mothers ( $p < 0.001$ ).

**Conclusion:** Although sensitization was statistically significantly more frequent among RhD-negative mothers, the number of sensitized RhD-positive mothers (25.5%) warrants attention. Based on our findings, antibody screening and monitoring should also be conducted in RhD-positive pregnant women.

## POSTER SESSION

## P52. Sleep disturbance in menopausal women with vasomotor symptoms: findings from two Phase 3 studies

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**Context** Sleep disturbances are common and disruptive during menopause, negatively affecting women's health and quality of life. Despite their prevalence, many women do not attribute their sleep disturbance to menopause, and clinicians often overlook them during consultations.

**Objective** To characterize the prevalence and severity of sleep disturbances among women entering the phase 3 OASIS clinical trials of elinzanetant, a dual neurokinin-1,3 receptor antagonist, for the treatment of vasomotor symptoms (VMS) associated with menopause.

**Methods** In two double-blind, randomized, placebo-controlled trials (OASIS 1 and OASIS 2), postmenopausal women with moderate/severe VMS were randomized 1:1 to receive 120 mg elinzanetant (OASIS 1: n=199; OASIS 2: n=200) or placebo (OASIS 1: n=197; OASIS 2: n=200) for 12 weeks, followed by a 14-week active-treatment phase. No sleep disturbance severity threshold was required for enrollment. Sleep disturbances were assessed using the Patient-Reported Outcomes Measurement Information System (PROMIS SD-SF-8b) questionnaire at baseline and at subsequent time points (weeks 1, 2, 3, 4, 8, 12, 16, 26, and 30). The electronic questionnaire evaluated eight items, such as 'I was satisfied with my sleep' and 'I had trouble sleeping'. Responses were rated on a 5-point scale and converted into total T-scores (range 28.9–76.5), where higher scores indicated greater sleep disturbance severity.

**Patient(s)** Postmenopausal women with moderate/severe VMS.

**Intervention(s)** Elinzanetant 120 mg daily or placebo.

**Main Outcome Measure(s)** PROMIS SD-SF-8b total T-scores and individual item responses.

**Results** At baseline, mean (SD) PROMIS SD-SF-8b total T-scores ranged from 60.2 (7.2) to 61.7 (6.2) across both trials. The majority of participants were 'not at all' or 'only a little bit' satisfied with their sleep at baseline; ranging from 69.4% (placebo, OASIS 2 n=193) to 78.7% (elinzanetant, OASIS 2 n=188). The majority also reported 'often' or 'always' having trouble sleeping at baseline; ranging from 58.1% (placebo, OASIS 1 (n=179) to 68.6% (elinzanetant, OASIS 2 n=188).

**Conclusion** In both OASIS trials, the average level of sleep disturbance was in the moderate range at baseline. Most women were unsatisfied with their sleep and reported trouble sleeping. These data underscore the significant burden of sleep disturbance among postmenopausal women with VMS, highlighting the need for clinicians to address sleep disturbances while counselling.



## POSTER SESSION

## P53. Effect of elinzanetant for the treatment of vasomotor symptoms associated with menopause: pooled data from two Phase 3 studies

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**Context** Elinzanetant demonstrated safety and efficacy in improving menopausal vasomotor symptoms (VMS), sleep disturbances, and menopause-related quality of life in two pivotal randomized phase 3 trials, OASIS-1 and -2.

**Objective** This exploratory pooled analysis provides combined efficacy data from these trials.

**Patients/Interventions** Naturally/surgically postmenopausal women with  $\geq 50$  moderate/severe VMS/week were randomized 1:1 to receive elinzanetant 120mg for 26 weeks or placebo for 12 weeks followed by elinzanetant for 14 weeks.

**Main Outcome Measures** Endpoints included mean changes in: frequency of moderate/severe VMS from baseline to weeks 1, 4, and 12; severity of moderate/severe VMS from baseline to weeks 4 and 12; both PROMIS Sleep Disturbance Short Form (PROMIS SD SF) 8b total T-score and Menopause-specific quality of life questionnaire (MENQOL) total score from baseline to week 12. Endpoints were analyzed by mixed model with repeated measures. P-values were indicative not confirmatory.

**Results** Reductions from baseline in daily moderate/severe VMS frequency were greater with elinzanetant ( $n=399$ ) than placebo ( $n=397$ ) at weeks 4 (mean [SD]: -8.02 [7.65] and -5.24 [7.95], respectively) and 12 (-9.35 [8.66] and -6.41 [9.36], respectively). From baseline, reductions were nominally significant compared with placebo at weeks 4 and 12, and as early as week 1 (all  $p<0.0001$ ). Reductions from baseline in daily VMS severity were greater with elinzanetant than placebo at week 4 (-0.74 [0.66] and -0.46 [0.50], respectively) and week 12 (-0.96 [0.78] and -0.61 [0.64], respectively). From baseline, reductions were also nominally significant compared with placebo at both timepoints (both  $p<0.0001$ ). Reductions from baseline to week 12 in PROMIS SD SF 8b total T-score were greater with elinzanetant than placebo (-10.7 [8.7] and -5.3 [6.9], respectively). The same was observed in MENQOL total score (-1.37 [1.29] and -0.96 [1.14], respectively). Reductions in both measures were nominally significant compared with placebo (both  $p<0.0001$ ). In women who switched to elinzanetant after week 12, further numerical improvements were observed across all measures up to week 26. The safety profile was favourable.

**Conclusions** Elinzanetant is well-tolerated and improves moderate/severe VMS, sleep disturbance, and menopause-related quality of life in postmenopausal women. Abstract presented at The Menopause Society Annual Meeting 2024 and published in the journal Menopause.

## POSTER SESSION

## P54. Trial in Progress: HIGHLIGHT 1 - A randomized, placebo-controlled, double-blind, phase 3 clinical study to investigate the efficacy and safety of fezolinetant for treatment of moderate-to-severe vasomotor symptoms (hot flashes) in women with stage 0 to 3 hormone receptor-positive breast cancer who are receiving adjuvant endocrine therapy

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**Context** Breast cancer is the most common cause of death due to malignant neoplasms in women globally. Adjuvant endocrine therapy, e.g., tamoxifen and aromatase inhibitors, can lead to premature menopause and vasomotor symptoms (VMS). Fezolinetant is an oral, nonhormonal, neurokinin 3 (NK3) receptor antagonist treatment option for moderate to severe VMS associated with menopause; approved in many countries, including the US, Europe and Australia, at 45 mg once daily. The pathophysiology of VMS in women undergoing cancer treatment is not fully elucidated but is hypothesized to have similar etiology to VMS associated with menopause, i.e., rapid decline of estrogen.

**Objective** To assess efficacy and safety of fezolinetant 45 mg once daily in moderate-to-severe VMS associated with tamoxifen or aromatase inhibitors for hormone receptor-positive breast cancer from stage 0 (cancer cells have not spread to nearby tissue) up to stage 3+ (cancer has spread from breast to lymph nodes near the breast or the chest wall).

**Methods** This global, double-blind, placebo-controlled phase 3 study (HIGHLIGHT 1 [NCT06440967]) comprises screening (28 days), treatment (52 weeks) and follow-up (3 weeks after final treatment). Eligible participants will be randomized 1:1 to fezolinetant 45 mg or placebo and stratified by adjuvant endocrine therapy, region, and prior chemotherapy. Participants will record their VMS daily on an electronic diary. Transvaginal and liver ultrasounds will be performed at screening and follow-up at up to 100 sites globally.

**Patients** Women (target enrolment n=540)  $\geq 18$  years with  $\geq 7$  moderate-to-severe VMS episodes/day receiving hormone therapy for stage 0-3 hormone receptor-positive breast cancer. Key exclusions: history/current malignancy other than hormone receptor-positive breast cancer (stage 0 to 3) or basal cell carcinoma.

**Interventions** Fezolinetant 45 mg once daily or matching placebo.

**Main Outcome Measures** Co-primary endpoints: mean change from baseline to week 4 and 12 in frequency and severity of moderate-to-severe VMS. Key secondary endpoints: mean change from baseline to week 12 in MENQOL VMS domain score and PROMIS Total Score Sleep Disturbance–Short Form 8b. Treatment-emergent adverse events (TEAEs) assess fezolinetant safety and tolerability.

**Results** Study is recruiting.

**Conclusions** To confirm if fezolinetant helps reduce treatment-induced VMS in women with stage 0-3 hormone receptor-positive breast cancer who are receiving hormone therapy.

## POSTER SESSION

## P55. EMPOWER: Evaluating Menopausal symptom treatment Options and Women's preferences

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**Context:** Although hormone therapy (HT) is highly effective in treating vasomotor symptoms (VMS), most women will not be treated with HT.

**Objectives:** To investigate preferences of postmenopausal women in the US, UK, and Germany for hypothetical treatments of VMS and related menopausal symptoms.

**Methods:** A discrete choice experiment (DCE) was administered in an online survey. Each DCE task asked women to choose between two unnamed treatment profiles and no treatment. Each profile was described by 4 evidence-based benefits and 4 risks. Choice data were analyzed using a mixed logit model. Relative importance (RI) of each concept, trade-offs between concepts, and the probability of specific profiles being preferred were calculated.

**Results:** The DCE was completed by 1697 women (mean age: 51.8 [SD 4.6] years; mean of 11.1 [SD 10.7] moderate-to-severe VMS events per day). HT-associated risks and benefits accounted for 43.4% and 35.3% of participants' decision-making, respectively. Risk of vaginal bleeding (presented range of 0–30%; RI 18.9%) affected treatment decisions most, followed by risk of osteoporosis-related fractures (12–3% range; RI 15.2%), genitourinary syndrome (no to some improvement; RI 14.9%), risk of blood clots (1–6% range; RI 12.9%), risk of breast cancer (1–6% range; RI 11.6%), sleep disturbance (0–2 point improvement range; RI 11.5%), risk of increased liver blood test values (no or yes; RI 9.8%), and frequency of moderate-to-severe VMS (30–95% reduction range; RI 5.2%). Participants were willing to forgo the treatment benefits of reduction in VMS frequency from 30% to 95%, reduction in bone fracture risk from 12% to 6%, 1-point improvement in sleep disturbance, or an improvement in genitourinary syndrome in order to their reduce 5-year breast cancer risk by 2.1%, 4.7%, 2.7%, and 6.9%, respectively. The profile with the greatest probability of being preferred was that aligned with an investigational non-hormonal treatment (47.2%), followed by HT (36.3%) and no treatment (16.6%).

**Conclusions:** Choice probability for HT was greater among study participants than in the real world, indicating that real-world decisions may be made based on outdated safety data or inaccurate perceptions of HT safety. There is a need for safe and effective VMS treatments alternative to HT, and for shared decision-making, with an educational component, between patients and their clinician. Abstract previously presented at International Menopause Society congress 2024.

## POSTER SESSION

## P56. A case report of surgical management of postmenopausal endometriosis of the rectum with atypia

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**Context:** Postmenopausal endometriosis remains largely uncaptured, because of its ambiguous pathophysiology, namely hypoestrogenism of the menopause. Its management is perplexing given the necessity to exclude malignancy, which is more prevalent in older women, and the lack of effective medical treatments.

**Objective:** This case report aims to describe the operative and medical management of postmenopausal women with rectal endometriosis.

**Methods:** Patient clinical data was collected from the hospital's database after informed consent.

**Results:** A 71-year-old patient with a history of metabolic syndrome, depression, and previous surgeries (oophorectomy, hysterectomy, left nephrectomy) for endometriosis presented with chronic left lower quadrant pain and hematochezia. CT and colonoscopy revealed a 5 cm sigmoid colon tumor confirmed as endometriosis in the biopsy. Ca-125 levels were in the normal range. After explanation of all alternatives, the patient opted for laparoscopic endometriosis removal with partial colectomy, low anterior resection, and a protective ileostomy resulting in removal of the tumor. An intraoperative bladder injury was repaired without further complications. Histology showed intramucosal endometriosis of the rectum with focal atypia. The patient was discharged on the sixth day post-op. The ileostomy reversal procedure took place 6 weeks after the first operation. On the follow-up visits, the patient reported reduced pain after three months, which was completely resolved using letrozole per os off-label once daily.

**Conclusions:** Postmenopausal endometriosis most commonly presents as a tumor of the abdomen or pelvis, even though it is generally rare in prevalence. Excluding malignancy is an important priority of diagnosis. Menopausal hormone therapy is reported to increase the risk of endometriosis recurrence and malignant transformation of pre-existing foci. Operative management seems to be the most appropriate form of treatment in the absence of contraindications, while medical treatment with aromatase inhibitors can be helpful in cases of residual pain.

## POSTER SESSION

## P57. Effectiveness of Vaginal Pessaries in the Conservative Management of Pelvic Organs Prolapse

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**Context:** Pelvic Organ Prolapse (POP) is a common condition in gynaecology, with a prevalence of 50 per cent confirmed by pelvic examination. The symptoms of POP include vaginal discomfort, pelvic pressure, low back pain, groin pain, urinary or faecal incontinence, difficult bowel movements, and sexual dysfunction. Although the incidence of POP has decreased in recent decades, it remains a significant issue, particularly among older women, and can significantly reduce Quality of Life (QOL).

**Objective:** To assess the effectiveness of vaginal pessaries in the management of POP in advanced-age women.

**Methods:** The study used the Pelvic Floor Distress Inventory Questionnaire – 20 (PFDI-20), the Female Sexual Function Index – 6 (FSFI-6), the POP/Incontinence Sexual Questionnaire, IUGA-Revised (PISQ-IR) to assess changes in symptoms before and after pessary insertion in women with POP.

**Patients:** A total of 25 women (mean age  $66.48 \pm 11.46$ ) with various pelvic floor dysfunctions were included in the study. The distribution of prolapse stages was as follows: cystocele – 28% (n=7), rectocele – 12% (n=3), prolapse I stage – 8% (n=2), II stage – 16% (n=4), III stage – 12% (n=3), IV stage – 24% (n=6). Participants completed the PFDI-20, FSFI-6, and PISQ-IR questionnaires before and 3 months after pessary insertion. The results were analysed.

**Main outcome measure:** Questionnaire scores.

**Results:** A statistically significant improvement was observed in the PFDI-20 scores before and after insertion of a pessary ( $177.1 \pm 68.5$  vs.  $103.28 \pm 34.34$ , respectively),  $P=.000$ ; FSFI-6 score statistically significantly increased after pessary insertion ( $21.96 \pm 3.89$ ) compared to pre-insertion scores ( $14.2 \pm 5.66$ ),  $P=.000$ ; PISQ-IR score was statistically significantly different before the procedure ( $56.32 \pm 6.41$ ), compared to the value after it ( $49.96 \pm 4.61$ ),  $P=.000$ .

**Conclusions:** Vaginal pessaries may be considered an effective alternative method in the conservative management of POP. They appear to improve the subjective symptoms of women and enhance, their quality of life.

## POSTER SESSION

## P58. Does sleep disturbance have an impact on depression and anxiety in perimenopausal and postmenopausal women? A Europe-based survey

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**Context:**

Vasomotor symptoms (VMS) and sleep disturbance are common menopausal symptoms and can adversely affect mental wellbeing.

**Objective:**

Assess the impact of sleep disturbance on depression and anxiety in menopausal women with and without VMS.

**Methods:**

Data were analyzed from women aged 40–65 who completed the online 2017 or 2020 National Health & Wellness Survey in UK, Spain, Italy, Germany, and France. Individuals were classified as perimenopausal if menstrual bleeding ceased  $\leq 12$  months or had irregular frequency, duration, or flow heaviness; and postmenopausal if menstrual bleeding ceased  $> 12$  months. Sleep disturbance was defined as self-reported sleep difficulties or symptoms occurring at least weekly, including difficulty falling asleep or night-time awakenings. Depression was assessed using PHQ-9 on a 0–27 scale and anxiety using GAD-7 on a 0–21 scale. In both measures, scores of 0–4 indicated no depression/anxiety risk; higher scores indicated increasing risk. Linear regression models compared differences between women with neither VMS nor sleep disturbance and women with both or either symptom.

**Results:**

There were 5312 peri- and 14908 postmenopausal women. In both cohorts, ~60% with VMS and ~40% without VMS had sleep disturbance. Perimenopausal women were more likely than postmenopausal women to have at least mild risk of depression (56.6% vs 44.6%) and anxiety (50.6% vs 38.9%).

All women with both or either of VMS and sleep disturbance had higher PHQ-9 and GAD-7 scores than those with neither symptom (all  $p < 0.05$ ). Marginal mean scores were highest in those with both symptoms (perimenopause: PHQ-9=7.98, GAD-7=6.20; postmenopause: PHQ-9=6.68, GAD-7=5.08), followed by sleep disturbance alone (perimenopause: PHQ-9=7.46, GAD-7=5.66; postmenopause: PHQ-9=6.17, GAD-7=4.54), followed by VMS alone (perimenopause: PHQ-9=6.28, GAD-7=4.88; postmenopause: PHQ-9=4.83, GAD-7=3.93), followed by neither symptom (perimenopause: PHQ-9=5.64, GAD-7=4.73; postmenopause: PHQ-9=4.26, GAD-7=3.46).

**Conclusions:**

Depression and anxiety scores were greater in peri- than in postmenopausal women. Sleep disturbance and VMS were associated with higher depression and anxiety risk; this association was stronger with sleep disturbance. This suggests that sleep disturbance may have a greater impact on mental wellbeing and underlines the importance of effective symptom management for menopausal women. Abstract previously presented at International Menopause Society congress 2024.

## POSTER SESSION

## P59. Vasomotor symptoms after surgical Menopause: a prospective cohort study from riga east clinical university hospital

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**Context:** Surgical menopause following bilateral oophorectomy (BO) has been associated with an onset of vasomotor symptoms (VMS) of a particularly unfavorable profile. The available prospective research data on the characteristics of VMS after surgical menopause is, however, rather scarce, necessitating the need for further studies.

**Objectives:** The objectives of this study is to evaluate the prevalence and characteristics of VMS after surgical menopause, as well as the contributing factors affecting the severity of the VMS following BO.

**Methods and materials:** This is a prospective longitudinal cohort study conducted at the Gynaecology Clinic of Riga East Clinical University Hospital between September 2022 and December 2024. Premenopausal women hospitalized for surgical treatment involving BO were recruited and surveyed at the time of hospitalization, as well as 3 and 6 months after surgery. The data collected included sociodemographic data, gynecological history, risk factors, prevalence, frequency and severity of VMS (hot flushes and night sweats). Statistical analysis was performed with IBM SPSS 29.0.0.0.

**Results:** A total of 34 participants were enrolled in the study. The prevalence of VMS following BO increased at 3 and 6 months post-surgery, with hot flushes rising from 88% to 100% and night sweats from 79% to 82%. During this study period, the severity of hot flushes and night sweats increased in 32% and 27% of study participants, respectively. Overweight women experienced longer hot flush episodes ( $p=0,037$ ), alcohol consumption was associated with increased frequency of hot flushes ( $p<0,05$ ), while physical activity correlated with milder night sweats ( $p=0,019$ ). In 82% of women interventions for VMS management commenced with the majority initiating non-pharmacological measures; amongst the 44% of women receiving menopausal hormone therapy (MHT), there was a significant decrease in the frequency of hot flushes compared to those without MHT ( $p=0,005$ ).

**Conclusions:** Bilateral oophorectomy in premenopausal women results in a high prevalence and severity of VMS with further increase of symptoms for up to at least 6 months post surgery and are additionally affected by such factors as weight, alcohol consumption, and physical activity, highlighting the importance of implementation of effective and comprehensive management strategies in a timely manner for the relief of VMS and improvement of quality of life after surgical menopause.



## POSTER SESSION

## P60. Impact of Menopause on Liver Fibrosis Progression in Metabolic Dysfunction-Associated Steatotic Liver Disease

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**Context:** The hormonal changes during menopause may exacerbate the progression of metabolic dysfunction-associated steatotic liver disease (MASLD), particularly liver fibrosis.

**Objective:** This study aimed to evaluate the relationship between menopausal status and the progression of MASLD, focusing on clinical and histological differences and the impact of estrogen exposure.

**Methods:** A total of 907 patients with MASLD were analyzed, with 706 patients having complete data on age and sex. Participants were stratified into four groups: males  $\leq 50$  years ( $n=211$ ), premenopausal females ( $n=74$ ), males  $>50$  years ( $n=142$ ), and postmenopausal females ( $n=279$ ). Liver histology, fibrosis stage, and clinical parameters were assessed at baseline and during follow-up. Fibrosis progression was defined as either liver stiffness measurement (LSM)  $\geq 9.6$  kPa in patients with baseline fibrosis stages 0–2 or a  $\geq 20\%$  increase in LSM in those with baseline stages 3–4 over a follow-up period (median: 45 months).

**Results:** •Postmenopausal females had significantly higher rates of fibrosis progression compared to other groups (log-rank  $p<0.05$  across multiple conditions). •Baseline characteristics revealed notable differences, with postmenopausal females exhibiting higher BMI, hypertension prevalence, and fibrosis markers (e.g., FIB-4 score and Agile 3+). •Estrogen exposure measures, including reproductive lifespan and endogenous estrogen exposure, were inversely associated with fibrosis severity ( $p<0.05$ ). •Liver histology demonstrated a higher prevalence of advanced steatosis and fibrosis in postmenopausal females.

**Conclusion:** Menopause is an independent risk factor for liver fibrosis progression in MASLD. The findings underline the need for targeted management strategies to address the increased risk of advanced liver disease in postmenopausal women.



## POSTER SESSION

## P61. Effect of elinzanetant for the treatment of vasomotor symptoms associated with menopause across BMI and smoking history subgroups: pooled data from two Phase 3 studies

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### Context

In the pivotal randomized Phase 3 trials, OASIS-1 and -2, elinzanetant (EZN), a dual neurokinin-1 and -3 receptor antagonist, significantly reduced the frequency and severity of menopausal vasomotor symptoms (VMS; also known as hot flashes) compared with placebo (PBO).

### Objective

This analysis aimed to evaluate the effect of EZN in pre-specified body mass index (BMI) and smoking history subgroups, which are important aspects that could influence treatment choice, using pooled data from the OASIS-1 and -2 trials.

### Methods

Patients and interventions

Naturally/surgically postmenopausal women aged 40–65 years with  $\geq 50$  moderate-to-severe VMS/week were randomized 1:1 to receive EZN 120 mg for 26 weeks or PBO for 12 weeks followed by EZN for 14 weeks.

### Main outcome measures

Participants were evaluated by BMI ( $<18.5$  [EZN  $n=5$ ; PBO  $n=2$ ],  $18.5$  to  $<25$  [ $n=124$ ;  $n=118$ ],  $25$  to  $<30$  [ $n=142$ ;  $n=143$ ],  $\geq 30$  kg/m<sup>2</sup> [ $n=128$ ;  $n=134$ ]) and smoking history (never [ $n=267$ ;  $n=250$ ], former [ $n=67$ ;  $n=66$ ], current [ $n=65$ ;  $n=81$ ]). Data were pooled from OASIS-1 and -2 trials; pooled subgroup categories with  $\leq 5$  participants were not included. Mean daily moderate-to-severe VMS frequency at baseline and changes from baseline to week 12 were compared descriptively across subgroups.

### Results

Overall, 796 participants were randomized to EZN ( $n=399$ ) or PBO ( $n=397$ ). At baseline, mean (standard deviation [SD]) daily moderate-to-severe VMS frequency was consistent across BMI subgroups of  $18.5$  to  $<25$  kg/m<sup>2</sup> (EZN: 13.6 [7.4]; PBO: 13.7 [7.5]),  $25$  to  $<30$  kg/m<sup>2</sup> (13.5 [6.5]; 15.8 [16.6]), and  $\geq 30$  kg/m<sup>2</sup> (15.1 [12.6]; 15.9 [11.4]), as well as never smokers (14.0 [9.0]; 15.8 [14.2]), former smokers (13.2 [6.5]; 13.0 [7.6]), and current smokers (14.9 [11.7]; 15.3 [10.5]). Mean (SD) reductions from baseline to week 12 in daily moderate-to-severe VMS frequency were numerically greater with EZN than with PBO across all BMI subgroups of  $18.5$  to  $<25$  kg/m<sup>2</sup> (-8.8 [7.1] vs. -6.5 [6.3]),  $25$  to  $<30$  kg/m<sup>2</sup> (-9.5 [6.8] vs. -7.4 [9.2]), and  $\geq 30$  kg/m<sup>2</sup> (-9.7 [11.5] vs. -5.2 [11.5]). The same was observed in subgroups of never smokers (-9.3 [8.1] vs. -6.4 [10.1]), former smokers (-7.8 [6.4] vs. -5.4 [6.2]), and current smokers (-11.2 [12.2] vs. -7.4 [9.2]).

### Conclusions

EZN demonstrated greater numerical reductions than PBO in moderate-to-severe VMS frequency in postmenopausal women across all BMI and smoking history subgroups. The greatest numerical reductions were shown in those with a BMI of  $\geq 30$  kg/m<sup>2</sup> and in current smokers.

## POSTER SESSION

## P62. Effect of elinzanetant for the treatment of vasomotor symptoms associated with menopause across race and ethnicity subgroups: pooled data from two Phase 3 studies

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**Context** In the pivotal randomized Phase 3 trials, OASIS-1 and -2, elinzanetant (EZN), a dual neurokinin-1 and -3 receptor antagonist, significantly reduced the frequency and severity of menopausal vasomotor symptoms (VMS; also known as hot flashes) compared with placebo (PBO). It is important to understand the efficacy of EZN across race and ethnicity.

**Objective** This analysis evaluated the effect of EZN in pre-specified race and ethnicity subgroups using pooled data from the OASIS-1 and -2 trials.

### Methods

**Patients and interventions** Naturally/surgically postmenopausal women aged 40–65 years with  $\geq 50$  moderate-to-severe VMS/week were randomized 1:1 to receive EZN 120 mg for 26 weeks or PBO for 12 weeks followed by EZN for 14 weeks.

**Main outcome measures** Participants were evaluated by race (American Indian/Alaska Native [EZN n=2; PBO n=2], Asian [n=2; n=2], Black/African American [n=73; n=63], Multiple [n=3; n=1], White [n=314; n=326], Not reported [n=5; n=3]) and ethnicity (Hispanic/Latino [n=30; n=38], Not Hispanic/Latino [n=366; n=354], Not reported [n=3; n=5]). Data were pooled from OASIS-1 and -2 trials; pooled subgroup categories with  $\leq 5$  participants were not included. Mean daily moderate-to-severe VMS frequency at baseline and changes from baseline to week 12 were compared descriptively across subgroups.

**Results** Overall, 796 were randomized to EZN (n=399) or PBO (n=397). At baseline, there was some variation in mean (standard deviation [SD]) daily VMS frequency across Black/African American (EZN: 16.6 [16.1]; PBO: 19.1 [23.0]), White (EZN: 13.4 [6.5]; PBO: 14.6 [9.4]), Hispanic/Latino (EZN: 15.5 [8.5]; PBO: 22.6 [17.7]) and Not Hispanic/Latino (EZN: 13.9 [9.2]; PBO: 14.4 [11.7]) subgroups. Mean (SD) reductions from baseline to week 12 in daily VMS frequency were numerically greater with EZN than with PBO across Black/African American (-10.9 [14.9] vs. -6.0 [16.3]), White (-9.1 [6.7] vs. -6.5 [7.5]) and Not Hispanic/Latino (-9.5 [8.7] vs. -6.2 [8.9]) subgroups. In the Hispanic/Latino subgroup, mean reductions in VMS frequency from baseline to week 12 were numerically greater with PBO (-9.1 [12.2]) than with EZN (-7.2 [8.4]).

**Conclusions** EZN demonstrated greater numerical reductions than PBO in VMS frequency in postmenopausal women across Black/African American, White, and Not Hispanic/Latino subgroups. Small group numbers and large relative baseline differences in VMS frequency may limit the generalizability of results in the Hispanic/Latino subgroup.

## POSTER SESSION

## P63. Menopausal Hormone Therapy (MHT) for women with underlying disease – a scoping review

Seifert-Klauss Vanadin (DE), Stefanova Vateva Lili (DE), Sturm Lea (DE)

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**Objective:** When women with underlying diseases and climacteric complaints present to physicians, there is often an uncertainty about the applicability of menopausal hormone therapy (MHT). This can lead to women not getting adequate menopausal care even in cases without contraindications against hormone therapy. The aim of this literature research was to conduct a scoping review and create a factsheet to ameliorate the information deficit on the applicability of MHT for women with underlying disease.

**Methods:** A literature research for relevant studies in PubMed was conducted for MHT and migraine (with and without aura), tension headache and unspecified headache. In addition, liver disease such as Hepatitis B and C infections, primary biliary cholangitis and for the history of gestational cholestasis were searched in connection with MHT.

Information was extracted from studies from the year 2000-2024, that examined the relationship between the various diseases and MHT. Data describing the menopausal status (peri- or postmenopausal), the MHT regimen (oestrogen only MHT or combined MHT, sequential or continuous MHT), the route of administration of the MHT (oral, parenteral, topical), the stage of the underlying disease and whether MHT had been prescribed as a preventive measure or as treatment for climacteric complaints were systematically collected. Where possible the results for perimenopausal and postmenopausal women were separated.

**Results:** Qualitative and quantitative analysis of the data on MHT and migraine showed tension headache to be unaffected by MHT. In trials of MHT over 6 months duration, tension headache and migraine showed no worsening, however women with MHT were more likely to suffer from migraine or unspecified headache than those without. No studies were found for MHT and migraine with aura. In studies of women with hepatitis B/C and MHT, no change in liver enzymes over 5 years was reported and users had lower rates of liver fibrosis progression than non-users of MHT. Apart from one Korean and one Taiwanese study, the most recent data were of 2010. **Summary:** New studies on the effect of transdermal MHT in women with migraine for longer than 6 months could provide new insights. The very different situations of peri- as opposed to post-menopausal women should be considered in future studies.

## POSTER SESSION

## P64. A multicomponent food supplement alleviates climacteric symptoms improving quality of life of menopausal women: A descriptive clinical study

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**Objective:** To study the effects of the supplementation with a multicomponent food supplement on menopausal symptoms affecting women's quality of life (QoL).

**Methods:** A prospective, unicentric, non-comparative, observational study in which women between 45 and 65-year-old with climacteric symptoms were supplemented daily with two capsules (one DAY and one NIGHT) of a Trigonella, cimicifuga and hops-based food supplement (Libicare® Meno) for 12 weeks. The QoL was measured with the Short-form Cervantes Scale (SFCS), general health state with the EURQOL scale and mood with a Visual Analogue Scale (VAS) at 4 and 12 weeks. Plasma levels of vitamin D were also measured, as well as satisfaction and tolerability of the treatment.

**Results:** A total of 33 women were evaluated. Significant improvement of their QoL was observed after 12 weeks by the reduction of total score of SFCS from 41.13 ( $\pm 20.2$ ) in the baseline visit to 36.37 ( $\pm 21.5$ ) and 33.70 ( $\pm 18.6$ ) after 4 ( $p = 0.31$ ) and 12 weeks ( $p = 0.046$ ), respectively. This improvement was particularly remarkable in the vasomotor symptom's domain. The EUROQOL scale did not find statistically significant changes, while the VAS showed a significant mood improvement from 5.18 ( $\pm 2.7$ ) to 3.12 ( $\pm 2.2$ ) and 3.30 ( $\pm 1.9$ ) after 4 and 12 weeks, respectively ( $p < 0.001$  vs baseline in both cases). Also, vitamin D plasma levels increased from 26.57  $\pm$  8.22 ng/mL to 32.75 ng/mL  $\pm$  5.65 ng/mL, after 12 weeks of supplementation with Libicare® Meno. Lastly, 51.51% of patients were satisfied/very satisfied with the treatment and no adverse effects were reported during the study.

**Conclusion:** Libicare® Meno food supplement improved the QoL and mood of the symptomatic menopausal women. In addition, it has shown a very good tolerability profile, with adequate satisfaction rates.

## POSTER SESSION

## P65. Metabolic Syndrome: Impacts on the health of climacteric women

Magalhaes Jarbas (BR), Meirelles Larissa (BR), Pereira Costa Nevton (BR)

[Magalhaes] Faculdade Municipal Professor Franco Montoro, [Meirelles] Faculdade Municipal Professor Franco Montoro, [Pereira Costa] Faculdade Municipal Professor Franco Montoro

**CONTEXT:** With longer life expectancy, women spend a large part of their lives in menopause, making it essential to have a clear understanding of the cardiometabolic changes during this period, like increased body fat, insulin resistance, dyslipidemia and endothelial dysfunction. **OBJECTIVE:** A systematic review of the literature to identify the main evidence on the relationship between obesity, metabolic syndrome and their impacts on climacteric women. **METHODS:** Database search in PubMed and Cochrane Library, between January 2014 and December 2024. The inclusion criteria considered the impacts of metabolic syndrome, obesity and cardiovascular diseases in climacteric women. After the first search with the proposed keywords, 349 articles were found, of which after analysis and review of the abstracts, 46 articles were selected. After a complete reading of the articles and a new review, 22 studies were found to be eligible to support this study. **RESULTS:** This review demonstrated that the climacteric period is associated with significant endocrine changes for women, resulting in greater accumulation of abdominal and visceral fat. Increased central adiposity has been associated with increased cardiometabolic risks and mortality in climacteric women, triggering factors that lead to insulin resistance, type 2 diabetes and changes in the lipid profile. **CONCLUSION:** Given this scenario, early diagnosis and guidance on preventive actions become a priority. It is imperative to implement effective therapeutic measures to reduce the negative impacts on women's health during the climacteric period. Adherence to lifestyle changes, including physical activity and a healthy diet, should always be considered in medical recommendations for patients with metabolic changes during this period.

**Keywords:** menopause, cardiovascular risk, obesity, metabolic syndrome

## POSTER SESSION

## P66. Hemorrhoids in pregnant women – a cause of reduced quality of life for women

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**CONTEXT:** Varicose veins are common during pregnancy and one of their manifestations is the expansion of hemorrhoidal veins in the 2nd half of gestation.

**OBJECTIVE:** This study aimed to determine the incidence of hemorrhoids in pregnant women from Uzbekistan and to evaluate the efficacy of diosmin.

**METHODS:** 80 women in the 2nd and 3rd trimesters of pregnancy with varicose veins of various locations were included and divided into 3 groups depending on the type of varicose veins: group 1 - 30 pregnant women with hemorrhoids; group 2 – 30 women with pelvic varicose veins (PVV) and hemorrhoids; group 3 – 20 women with PVV. All these women received diosmin 600mg (Phlebodia®, Innotech) once a day, for 1 month and were compared to untreated healthy women at similar gestational ages (n=20). All patients underwent a 10-point VAS, a questionnaire and biological tests on coagulation and endothelial dysfunction. Women with varicose veins underwent ultrasound examination of the fetoplacental complex.

**RESULTS:** Pregnant women with hemorrhoids complained of itching, burning and pain in the anus, significantly impairing their quality of life. Pregnant women with PVV often complained of pain in the lower abdomen, with normal uterine tone. Ultrasound of the fetoplacental complex with Doppler of the uterine vessels revealed a combination of hemorrhoids with PVV in 40% (n=12) and hemorrhoids were combined with varicose veins of the external genitalia in 26.7% of women (n=8). Disturbance of the utero-fetal-placental blood flow of the 1st A-degree was detected only in group 2. These results indicate the secondary development of hemorrhoids in the 2nd and 3rd trimesters of pregnancy which would be due to an imbalance of nutrition, parity, large fetus, history of hemorrhoids, rather than a background of PVV. Laboratory tests revealed an increase in fibrinogen levels and a shortening of blood clotting time. Vascular cell adhesion molecules (VCAM) and D-dimer increased depending on the clinical picture. After only 5-6 days treatment with diosmin, women noted improvement, a decrease in pain along the veins, and in case of hemorrhoids, decrease in symptoms in the anal area. The newborns were examined by a neonatologist and no abnormalities were detected.

**CONCLUSION:** During pregnancy, hemorrhoids often occur as a complication of varicose veins of the small pelvis. Prescribing the venotonic drug Diosmin 600 to pregnant women improves their quality of life of pregnant women relieving pain.

## POSTER SESSION

## P67. A case of a spontaneously resolved persistent pregnancy of unknown location.

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### Context

A spontaneously resolved persistent pregnancy of unknown location.

### Objective

To present a case of a pregnancy of unknown location with a plateau in  $\beta$ -hCG levels that was spontaneously resolved.

### Methods

We reviewed the international literature regarding cases of pregnancy of unknown location.

### Patient

A 29-year-old woman presented to the emergency department complaining of irregular vaginal spotting. The patient was in her 17th day of her menstrual cycle. The patient reported no abdominal pain or other symptoms. The first transvaginal ultrasound (TVUS) of the patient revealed no intrauterine pathology and her endometrium thickness was measured at 0.65cm. Her first  $\beta$ -hCG was measured at 1256.67 mIU/ml and the diagnosis of an early pregnancy was confirmed. A second blood test two days later revealed a  $\beta$ -hCG value of 1231.16 mIU/ml. A third test two days later revealed a value of 1235.23 mIU/ml and a second transvaginal ultrasound was performed only to reveal no intrauterine pregnancy and an endometrium with a thickness of 0.32 cm. The suspicion of an ectopic pregnancy was raised. A transabdominal ultrasound of the patient was then performed and again no pathology was found. The patient continued to have vaginal spotting and reported no abdominal pain.

### Intervention

The patient began a treatment with a daily dose of 600mg of misoprostol on her 6th day of vaginal spotting and a new  $\beta$ -hCG test two days later revealed no drop of the values of  $\beta$ -hCG, which remained at 1222.14 mIU/ml. A talk about the need of a methotrexate dosage was done with the patient.

### Main Outcome

Two days later a new  $\beta$ -hCG test revealed a drop at 1701.15 mIU/ml. We suspected that this was the case of a spontaneously resolved pregnancy of unknown location. The patient stopped the treatment with misoprostol and a week later her  $\beta$ -hCG value was at 540 mIU/ml. The patient was observed and a weekly test of  $\beta$ -hCG was performed, until her values returned to normal.

### Results

We resulted that this was a case of a spontaneously resolved pregnancy of unknown location.

### Conclusions

Even with all the limitations this case report demonstrates that all obstetricians should remain vigilant in cases of patients with a plateau in  $\beta$ -hCG levels. A therapy with misoprostol can be used as a first approach in cases of pregnancy of unknown location, as in some cases the embryonic cells can in fact be found inside the uterus, even if there is no sonographic confirmation.

## POSTER SESSION

## P68. Spontaneous Regression of Primary Fetal Hydrothorax

Deveikienė Gerda (LT), Domža Gintautas (LT), Misevičiūtė Karolina (LT), Ramašauskaitė Diana (LT), Voločovič Jelena (LT)

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**Introduction:** Fetal hydrothorax is a unilateral or bilateral accumulation of fluid in fetal pleural space. Etiologically classified as primary (congenital chylothorax) or secondary (associated with hydrops fetalis), its incidence is approximately 1 in 10,000 to 15,000 pregnancies. In the last few decades prenatal imaging techniques have advanced greatly and enable early detection in up to 94% of cases, however there is still discussion about what proportion of these cases remain undiagnosed and spontaneously regress without notice. Treatment options for this pathology range from conservative management to invasive procedures.

**Case report:** A 33-year-old pregnant woman (gravida 2 para 2) was referred to our tertiary center due to suspicion of fetal pathology at 35 weeks and 2 days gestation. During fetal ultrasound examination a large anechogenic fluid accumulation in the right pleural gap was identified. Heart and blood vessel ultrasound by a pediatric cardiologist found no other structural abnormalities or fetal pathology. At a follow-up appointment scheduled four days later ultrasound showed a complete resolution of fetal hydrothorax at 35 weeks and 6 days gestation. Screening for congenital infections yielded negative results. A comprehensive evaluation, including a complete blood cell count, blood type analysis, and antibody screening excluded the possibility of immune hydrops. The patient underwent a spontaneous vaginal delivery at 40 weeks and 4 days of gestation, initiated by the onset of natural labor activity. A live male infant was born weighing 3640 g, with no need of ventilatory support. Infant was investigated for congenital infection, however, no infection was found and the infant was deemed healthy.

**Conclusions:** Advancements in prenatal diagnostic techniques, particularly ultrasound, have significantly improved the ability to detect this condition in pregnancy.

This case contributes to the growing body of evidence suggesting that a significant proportion of fetal hydrothorax cases can resolve spontaneously without the need for invasive interventions. Future research should focus on further understanding of natural history of fetal hydrothorax, the factors predicting spontaneous resolution, and the long-term outcomes for affected infants. This knowledge will enhance the ability of healthcare providers to make informed decisions, optimize prenatal care, and improve prognostic counseling for expectant parents facing this diagnosis.



## POSTER SESSION

## P69. A Current Analysis of Common Dietary Patterns During Pregnancy and Breastfeeding: Trends, Advantages, and Difficulties

Bothou Anastasia (GR), Chouli Maria (GR), Deltsidou Anna (GR), Diamanti Athina (GR), Kyrkou Giannoula (GR)

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**Background:** During the crucial stages of pregnancy and breastfeeding, a woman's nutritional needs alter significantly to support the development of the fetus and the health of the mother. The nutrients consumed during these phases are essential for immune system function, good growth, and preventing conditions including gestational diabetes, premature birth, and developmental delay

**Objective:** The main objective of the present review is to summarize the essential nutrients needed for the health of the mother and fetus. The suitability and possible advantages of several dietary patterns, such as Mediterranean, vegetarian/vegan, and gluten-free diets, were assessed.

**Methods:** The databases PubMed, Google Scholar, ScienceDirect, Scopus, and Web of Science were searched. We also examined conference proceedings, guidelines, recommendations from reputable organizations, and grey literature. Finding articles about the vital nutrients needed throughout pregnancy and lactation, including the amounts needed and their function at each stage, was the main goal. Studies on different eating patterns, their drawbacks, the «rules» they enforce, and their suitability and advantages for health during pregnancy and breastfeeding were also reviewed.

**Results:** Important nutrients that support fetal growth and reduce the risk of problems including gestational diabetes, hypertension, and preterm birth include folic acid, vitamin D, iron, calcium, and omega-3 fatty acids. The benefits of the Mediterranean diet in preventing pregnancy-related illnesses were emphasized. Vegetarian and vegan diets, on the other hand, were shown to need meticulous preparation in order to guarantee enough consumption of important nutrients. The research also explored dietary methods for controlling blood sugar levels and the effects of gestational diabetes. Intermittent fasting during pregnancy was also covered, with conflicting data about its impacts on pregnancy outcomes and safety.

**Conclusions:** Overall, the research emphasizes the significance of customized dietary recommendations to guarantee the best possible health for the developing fetus and the mother throughout pregnancy and breastfeeding.

## POSTER SESSION

## P70. Gynecologists' attitude and approach for the management of Nausea and Vomiting in Pregnancy in Italy: the PURITY FLEX survey

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**Context** Nausea and vomiting in pregnancy (NVP) is a common and invalidating condition in early pregnancy and affects 66% of Italian women. Although NVP aetiology remains unknown, evidence reported NVP is multifactorial. During pregnancy, all women should be screened for NVP using a validated tool (24-hours Pregnancy-Unique Quantification of Emesis) to evaluate the severity of symptoms (mild, moderate, severe). Pharmacological NVP treatments can have a positive impact on quality of life, reducing serious complications and preventing negative maternal outcomes, but their adoption in the Italian clinical practice remains inconsistent, as only 1 out of 3 women is medically treated.

**Objectives** This study evaluates Italian gynaecologists' management of NVP and the factors influencing their pharmacological intervention's choice.

### Methods

A cross-sectional survey of 180 Italian gynecologists was conducted in July 2024 using CAWI/CAMI methodology. It assessed knowledge of PUQE, therapeutic preferences, and perceptions of the prolonged release doxylamine succinate 10 mg/pyridoxine hydrochloride 10 mg capsules' efficacy and dosing flexibility. Statistical analyses set significance at 90%.

### Results

PUQE score is known only by 36% of gynaecologists, but only 8% of them uses it on each patient. If patient experiences only nausea or nausea and some episodes of vomiting, only the 20% of gynaecologists prescribe a pharmacological treatment; instead, when vomiting is persistent (with or without nausea) it increased up to 91%, favoring the prolonged release doxylamine succinate 10 mg/pyridoxine hydrochloride 10 mg capsules for its safety, efficacy, and flexible dosing. The most relevant therapy drivers are the foetal-maternal safety and its efficacy on symptoms.

### Conclusions

Findings highlight gaps in standardized assessment and management of NVP. Despite the underuse of tools like PUQE, prolonged release doxylamine succinate 10 mg/pyridoxine hydrochloride 10 mg capsules are preferred in treating moderate-to-severe NVP. Promoting evidence-based tools and individualized treatment approaches could improve care and outcomes for pregnant women with NVP.

## POSTER SESSION

**P71. codigo mater**

Galindo Lilia (MX), Galindo Ortega Lilia (MX)

[Galindo Ortega] privado, [galindo] privado

Codigo mater 28 11 2023

Gpv femenino 33 años hr de ingreso 5:15 hrs

Diganosticos:

- A) choque hipovolemico iv secundario a hemorragiamasiva obstetrica
- B) embarazo ectopico tubario derecho rotosecundario a inducciondeaborto fallida )ingestion 8 tabletas de misoprostol
- C) trnsfusioonn masiva
- D) sindrome post paro cardiaco resucitacion exitosa (3 paros 1r transquirurgico, 2do 1 hrsposteriora 1ra cirugia 3ero 3hrs posterior
- E) coagulacion intravascular diseminada isht 5
- F) convalecencia consecutiva a cirugia : 1ra laparotomia salpingectomia derecha, 2da Laparotomia empaquetamiento abdomino pelvico 3ra laparotmia desempaquetamiento
- G) anemia severa secundia a hemorragia aguda (oms)

Atencionen trauma choque acude con datos clinico de choque soporosa presento lipotimia ante de su llegada fur no recuerda dolor abdominal intenso distension abdominal ausencia de peristalsis sin metodo de planificacion familiar sin prueba de embarazo antecede giv aiii todos inducido con misoprotol a 70 45 mmhg fc 102 por mint sat 90% 02<sup>a</sup> fast abdominal liquido libre refeire ingestione 8 tabletas de misoprotol 20 mcg para resctaurar ciclo menstrual se activa c odigo mater por prueba de emabrazo serica postiva se inicia reposicion de volumenpasa urgente a cirugia lapaotomia exploradora con salpingectomia derecha y drenaje de 3200 ml de sangrado presenta paro cardiaco con reanimacion exitosa ingresa a unidad de cuidados intensivos presenta 2do paro cardico 1a hr posteior a cirugia al tiempoque continua transfusiondde 4to concntrado eritrocitario 2do plama fresco congelado se consiguen y transfuden crioprecipitadospor datos de cid con tiempo dr protrombina prolongado tiempo parcia de tromboplas-tina prolongado hipofribrinogeneia plaquetopenia continau consangrado activo por penrose 2da laparotomia para empaquetamiento exitoso observando sangrqdo en capa del muñon quirurgico se realiza control de daños continua manejo multidisciplinario en uci se realiza desempaquetameinto alos 4 dias exitoso presenta neumonia intersticial por intubacion de la cual mejora y egresa ad intgrum alos 14 dias de estancia hospitalaria

## POSTER SESSION

## P72. Ruptured Hepatic Hemangioma in the Third Trimester of Pregnancy: A Rare Case Report

Dimasis Periklis (GR), Giotas Amyntas (GR), Gkogkos Christos (GR), Kountouri Ismini (GR)

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**Context** : Only a few cases of ruptured perinatal hepatic hemangiomas have been reported. We report a case of a 29 year old woman in her 3rd semester of pregnancy with a spontaneous rupture of an unknown hepatic hemangioma.

**Objective** : To present our case and to review the international literature.

**Methods** : We review the international literature regarding cases of pregnant women with a spontaneous hepatic hemangioma rupture. For our review we searched through the databases pubmed, scope and cochrane.

**Patient** - Our patient is a 29 year old woman in her third semester of pregnancy, who presented in the emergency room complaining of abdominal pain and vomiting. On clinical examination she was tachycardic and the fetal heart rate was low at 70bpm per minute. Her first laboratory tests revealed a hematocrit of 21% and hemoglobin of 6.9 grams/dL. Because the patient was becoming hemodynamically unstable the decision for a cesarean section and delivery of the fetus, was made.

**Intervention** - Upon laparotomy the infant was delivered alive, but because of the uncontrollable bleeding and the inability for the uterus to contract the decision for a hysterectomy was made. An intraperitoneal bleeding that was not related to the hysterectomy was the reason for general surgery to be called. Through a Pfannenstiel incision, a liver mass was able to be palpated. The decision was made to perform an upper midline incision to evaluate and control the liver hemorrhage. The left lobe of the liver was noted to have a large, ruptured hemangioma with active bleeding. Initial attempts to stop the bleeding with pressure/cautery failed and an atypical left hepatectomy was performed.

**Main outcome** - The patient was then closed up and transferred in the Intensive care unit where she became gradually hemodynamically stable and was excubated. She returned to the surgical ward and had an unremarked post operative course.

**Results** - Our review of the literature revealed that only a few cases regarding rupture of hepatic hemangioma during pregnancy have been reported. Because of the vague presentation and the inability for diagnostic imaging because of the pregnancy these cases can often be underdiagnosed, with potentially life threatening complications for both the fetus and the patient.

**Conclusions** - A ruptured subcapsular liver hematoma is a surgical emergency and both surgeons and obstetric specialists should remain vigilant regarding these cases.

## POSTER SESSION

## P73. Maternal nearmiss - mortality, morbidity and the impact of this global problem

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**Context:** The Near Miss Maternal (NMM), defined by the World Health Organization (OMS) as surviving severe complications, is a tool for preventing deaths and evaluating care, indicating the quality of the healthcare system. Although maternal mortality in Latin America decreased by 60% between 1990 and 2008, Brazil still has high rates, with 67.8 per 100,000 live births (2010). Therefore, studying NMM is

essential to identify gaps in care and support maternal health improvement policies.

**Objective:** To analyze NMM cases in a Brazilian hospital, identifying associated factors and proposing improvements in maternal healthcare quality.

**Methods:** A descriptive observational retrospective study analyzing medical records of women with risk conditions between 2023 and 2024 at Hospital do Rocio, Paraná.

**Patients:** The hospital manages between 3,000 to 4,000 births per year, providing tertiary care for high-risk pregnancies.

**Interventions:** NMM is crucial for understanding the factors leading to severe complications. Maternal morbidities have a significant social impact.

**Results:** During the study period, 3,463 births occurred, with 55 NMM cases and nine maternal deaths, one related to abortion. The NMM proportion was 16.03 per 1,000 live births, and the maternal mortality ratio was 262.35 per 100,000 live births. The average age of patients with NMM was 32 years. The main causes of severe outcomes were hypertensive disorders (37.5%) and hemorrhagic disorders (28.1%).

Most complications occurred in the third trimester (71.41%), and the majority of patients required pregnancy termination, with 79.24% undergoing emergency cesarean sections. Maternal deaths were associated with hemorrhage, cardiopathy, and metastatic cancer, occurring mainly in women with previous cesarean sections or first time pregnant.

**Conclusion:** The NMM and maternal mortality rates at the hospital are higher than those observed in high-income countries but lower than in some low- and middle-income countries, reflecting the quality of care. The presence of intensive care units significantly contributes to the effective management of severe complications. Furthermore, the implementation of audits, local protocols, and a unified data system are key measures to enhance care and reduce complications. Therefore, adopting NMM as a quality indicator is essential for preventing maternal deaths.

## POSTER SESSION

## P74. The Impact of Preterm Premature Rupture of Membranes on Chorioamnionitis Rates and Maternal and Newborn Health

Baltutyte Kotryna (LT), Minkauskiene Meile (LT)

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**Context:** Preterm premature rupture of membranes (PPROM) is a complication associated with increased maternal and neonatal risks, including infections and adverse neonatal outcomes.

**Objective:** This study aimed to evaluate maternal and neonatal outcomes associated with PPRM before 30 weeks, focusing on infection rates and neonatal outcomes across different gestational age and latency period groups.

**Methods:** A retrospective study of 45 women with PPRM at LUHS KK Obstetrics and Gynecology Department (2021–2023) was conducted. Participants were divided into four gestational age groups (22–24, 25–26, 27–28, 29–30 weeks) and four latency period groups (up to 1 day, 2–3 days, 4–14 days, over 14 days). Data were analyzed using descriptive statistics and chi-square tests.

**Main Outcome Measures:** The primary outcomes were neonatal sepsis, necrotizing enterocolitis, retinopathy of prematurity, bronchopulmonary dysplasia, intraventricular hemorrhage, and maternal leukocyte counts and CRB levels. The relationship between these outcomes and the latency period after PPRM was also examined, along with rates of clinical and histological chorioamnionitis.

**Results:** The mean PPRM was  $26.2 \pm 3.3$  weeks, and the mean latency period was  $6.6 \pm 7.8$  days. Clinical chorioamnionitis occurred in 33.3% of cases, and histological chorioamnionitis was found in 68.9% of cases. In the 22–24 weeks group, 83.3% of newborns had neonatal sepsis, while the 29–30 weeks group had only 5.6%. Chi-square tests revealed significant associations between gestational age and both necrotizing enterocolitis and neonatal sepsis ( $p < 0.001$ ). Leukocyte counts and CRB levels were slightly elevated in the longer latency group, but these differences were not significant. A statistically significant association was observed ( $p = 0.004$ ), with higher rates of clinical infection in the 22–23 weeks group (80%) and histological chorioamnionitis in the 24–26 weeks group (53.3%).

**Conclusion:** The study found that the latency period following PPRM before 30 weeks significantly impacted infection rates, with clinical chorioamnionitis being more common in the shorter latency group. Longer latency did not show a significant effect on neonatal outcomes such as sepsis and necrotizing enterocolitis. Gestational age was a critical factor, with earlier PPRM associated with higher rates of neonatal sepsis and clinical infection.

## POSTER SESSION

## P75. Stress felt by mothers in the Neonatal Intensive Care Unit

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**Objective** The objective of this study was to identify the components and characteristics of stress experienced by mothers of infants admitted to the NICU based on a conceptual analysis.

**Methods** The research was conducted using four databases, utilizing the keywords “NICU,” “mother,” and “stress.” Of the 223 identified articles, 45 were selected for detailed examination, representing approximately 20% of the total number of hits, in accordance with Rogers’ method of selection. Ultimately, 26 references were deemed suitable for analytical examination.

**Results** The four attributes of maternal stress in the NICU were identified as follows: an earnest desire for her own infant, feelings of having nowhere to go, vague anxiety about the future, and PTSD or trauma. The research identified five antecedent elements and three consequents.

**Conclusions** The results of this study revealed that mothers feel anxious, traumatized, and psychologically distressed, such as PTSD, because they have a desperate desire for their children, but also feel stuck in a situation over which they have no control. The results also suggest that the stress felt by mothers of NICU babies can be explained based on the relationship between stressors and stress responses, which is an existing stress theory. In addition, some of the stressors that were antecedents also included elements that led to positive emotions and self-confidence in the mothers.

## POSTER SESSION

## P76. Epidemiological Profile of Perinatal Mortality in a Tertiary Hospital

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**Context:** Perinatal mortality is defined as the number of deaths occurring between 22 weeks of gestation and/or birth weight equal to or above 500 grams, and deaths of live newborns of any weight occurring up to the sixth full day of life. The perinatal mortality rate can be calculated by the number of deaths occurring in the perinatal period per thousand total births. The perinatal mortality indicator is applicable to the areas of obstetrics and neonatology and reflects the quality of care during prenatal care, childbirth and the first days of the newborn's life. The perinatal mortality coefficient contributes to the assessment of the population's socioeconomic development levels, allowing national and international comparisons. With the decline in infant mortality, perinatal mortality has emerged as a huge public health problem, especially in low and middle-income countries. From the analysis of the perinatal mortality rate, it is possible to carry out planning, management and evaluation of health policies and actions aimed at maternal and child health. The main associated risk factors are prematurity, the presence of congenital malformations, low birth weight, low maternal education, mothers as heads of the family, mothers without a partner and failure to attend at least six prenatal consultations.

**Objective:** To understand the main risk factors linked to perinatal mortality and carrying out comparisons with national and international data. **Method.** Analysis of the epidemiological profile, through a retrospective cohort, of perinatal mortality at Hospital do Rocio, over a 12-month period, between the months of August 2023 and July 2024.

**Results:** The perinatal mortality rate found in this study is 18.67 deaths per 1000 births, with 86.6% of the cases occurring in premature infants. The presence of congenital malformations was present in 40% of the cases of perinatal deaths analyzed, and 80% of the deaths recorded weigh less than 2500 g. It is important to emphasize that individuals who died, in their complexity, may present more than one contributing condition.

**Conclusion:** Studies on perinatal mortality allow increasing knowledge about the magnitude and causes of perinatal deaths, as well as the possibility of improving care protocols and directing preventive strategies, according to the characteristics of the population served, contributing to decision making informed by health professionals and hospital managers.



## POSTER SESSION

## P77. Features of hemostasis and key genetic markers in pregnant women with hyperproliferative uterine diseases

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**Introduction.** Women with hyperproliferative uterine diseases (HUD) often have a hypercoagulable state, which increases the risk of pregnancy complications. Recent studies emphasize the influence of folate cycle gene variants and hemostasis genes on the state of the hemostasis system. However, the relationship between these genetic markers and the hemostasis system in women with HUD remains poorly understood.

**Objective:** to study the features of the hemostasis system and folate metabolism gene variants in pregnant women with HUD in the complicated course of the first trimester of pregnancy.

**Material and methods.** 75 pregnant women with various combinations of HUD were examined. The control group consisted of 60 pregnant women of reproductive age with 1 or more children without HUD. Hematological examination of the examined women was performed. Genotyping of MTHFR, MTR, MTRR, F5, F2, FGB, PAI-1, ITGA2 and ITGB3 gene variants was performed for all participants.

**Results.** Interactions between folate cycle genes modulated risk, with lower risk observed in the absence of variants that reduce gene function. The TT genotype at the rs1801133 variant of the MTHFR gene was associated with an increased risk of PAD. Significant correlations were found between the following gene variants: rs1801133 of the MTHFR gene and prothrombin time ( $rs=-0.55$ ,  $p=0.022$ ); rs1800787 of the FGB gene and fibrinogen levels ( $rs=0.40$ ,  $p=0.034$ ); rs1126643 of the ITGA2 gene and platelet levels ( $rs=0.70$ ,  $p=0.037$ ); rs5918 of the ITGB3 gene and activated partial thromboplastin time ( $rs=0.68$ ,  $p=0.045$ ).

**Conclusion.** A genetic predisposition to disorders in the hemostasis system in patients with GHPM has been identified, which may serve as a theoretical basis for the development of a personalized prevention and treatment strategy.

**Keywords:** hyperproliferative diseases of the uterus, pregnant women of reproductive age, hemostasis, Gene, FGB, ITGA2, ITGB3, MTHFR.

## POSTER SESSION

## P78. Rusty Pipe Syndrome during Breastfeeding Our Experience

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**Context:** Rusty Pipe Syndrome (RPS) is a benign condition usually characterized by the bilateral presence of erythrocytes in the breast milk of pregnant or postpartum women. Although rare, this condition often causes significant distress for both the mother and the medical staff.

**Objective:** This study presents a series of case reports to raise awareness about RPS and to identify any potential variations in findings compared to existing literature.

**Methods:** Data were collected from March 2023 to July 2024 at REA Maternity Hospital in Athens, and Alexandroupolis University Hospital in Alexandroupolis, Greece. Six women aged 25 to 36 participated in the study. All participants underwent standardized examinations to confirm the presence of RPS.

**Results:** In four cases (66,7%), RPS was bilateral, and in two cases (33,3%), it was unilateral. The condition resolved spontaneously within the first postpartum week in all cases, except for one in which bloody discharge recurred several months later. Ultrasound imaging did not reveal any intraductal lumps, and physical examinations showed no pathological abnormalities. Further investigations, including ductoscopy and cytological analysis of breast milk, identified an intraductal papilloma in the case where bloody discharge reappeared. Primigravida women were more likely to develop RPS, accounting for 83% of the cases.

**Conclusions:** Our findings align with previously reported cases, showing no significant deviations. Notably, our study included two cases with unilateral discharge, which is relatively rare for this condition. Early recognition of RPS is crucial to avoid unnecessary cessation of breastfeeding. Ongoing discussion and research on RPS are recommended to increase awareness and improve clinical management.

## POSTER SESSION

## P79. The role of an interdisciplinary approach to the treatment of patients with premature ovarian insufficiency

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**Introduction:** Premature ovarian insufficiency (POI) is a pathology accompanied by diminished ovarian reserve before the age of 40 and characterized by hypogonadism and infertility. Patients with this condition are at a high risk of anxiety and depressive disorders, which leads to the deterioration of health and a decreased quality of life.

**Clinical Case:** Patient N., 37 years old, consulted a gynecologist in the department of endocrine gynecology of the Endocrinology Research Center complaining about recurrent miscarriage, anxiety, weight gain up to 107 kg. In the history: 1 labor at term in 2014, miscarriage at 18 weeks due to isthmio-cervical insufficiency in 2020, missed abortion at 6 weeks in 2021, spontaneous abortion at 7 weeks in 2023. 2 superovulation stimulation protocols carried out in 2022 and 2023 failed to obtain high-quality oocytes. During her first pregnancy, she gained 20 kg and continued to gain weight gradually. The body mass index at admission was 39.3 kg/m<sup>2</sup>. Follicle-stimulating hormone (FSH) from January 2024 was 25.6 U/L. An in-patient laboratory examination was performed with results such as glucose 5.7 mmol/l, luteinizing hormone 5.2 U/L, FSH 13.7 U/L, anti-Müllerian hormone 0.17 ng/ml. Estradiol 157 pmol/l and testosterone 0.3 nmol/l were performed using high-performance liquid chromatography-mass spectrometry.

Given the complaints of anxiety, the patient consulted a psychotherapist. She first noted anxiety when expecting a repeated unsuccessful pregnancy, unstable mood with overeating. A psychotherapist diagnosed mixed anxiety-depressive disorder and prescribed antidepressant therapy under the dynamic supervision.

Despite these contraceptive recommendations, 3 months later the patient again consulted a gynecologist due to progressive pregnancy (13 weeks). She was re-examined by a psychotherapist to correct the therapy. There was positive dynamics as improved mood, decreased anxiety and overeating, as well as a weight loss of 4 kg. The pregnancy proceeded without any complications. Normal labor occurred at 39 weeks, a girl of 3390 g, 50 cm, Apgar score 8/9 was born.

**Conclusion:** Obviously, POI leads to a pronounced decrease in fertility, but the patient's mental state is no less significant. The clinical case demonstrates the interdisciplinary collaboration of a gynecologist and a psychiatrist to be important for more effective treatment to improve the reproductive prognosis.

## POSTER SESSION

## P80. Assessment of hormonal profile in polycystic ovary syndrome in adolescent girls

Kamilova Nigar (AZ)

**Relevance.** Polycystic ovary syndrome (PCOS) is a multifactorial heterogeneous disease associated with endocrine, reproductive and metabolic manifestations. The formation of PCOS and manifestation of its clinical manifestations originate in adolescence.

The aim of the study: to investigate the peculiarities of hormonal status in adolescent girls with polycystic ovary syndrome.

**Material and methods** of research. Clinical and laboratory examination of 112 adolescent girls aged 14-18 years was carried out. Of them - 72 patients with polycystic ovary syndrome (main group, I) and 40 practically healthy girls of similar age with normal indicators of physical and sexual development (control group, II).

Hormonal status was studied in dynamics in follicular and luteal phases using Mikroplate reader RT-2100C. The obtained results were statistically processed by determining the mean mathematical limit (M), standard deviation, mean error of mathematical limit (m).

**Results** and discussion. The analysis of follicle-stimulating and lutenising hormone content in phases I and II revealed certain fluctuations of average values by phases in patients with PCOS. The LH/FSH index in this subgroup was  $2.1 \pm 0.4$ .

The average hormone content in the main group in the follicular phase was  $131.3 \pm 6.2$  pg/ml, and in the luteal phase  $176.2 \pm 4.1$ , which is significantly lower than the values presented in the literature. The dynamics of changes in progesterone content in both groups was similar.

In patients with polycystic ovary syndrome, individual testosterone values ranged from 1.9-3.9 ng/ml, the average values were  $3.1 \pm 1.2$ , in the control group with  $1.9 \pm 0.6$  ng/ml. There is a significant correlation between the level of total testosterone and the severity of symptoms of PCOS.

There was a significant increase in AMH in CML patients compared to the control group -  $7.2 \pm 2.3$  ng/ml and  $3.4 \pm 1.6$  ng/ml.

**Conclusions** The study of reproductive system hormones and AMH plays a significant confirmatory role in the diagnosis of polycystic ovary syndrome. Increased AMH allows detection of the disease at early stages of its development.

## POSTER SESSION

## P81. Fetoplacental mosaicism and non-invasive procedure testing (case study)

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**Background:** Prenatal diagnosis is now part of established obstetric practice in many countries especially non-invasive procedure diagnosis by using cell - free nucleic acids in maternal plasma. NIPT is described as a "fetal" screening test and many authors refer to "cell – free fetal DNA (cffDNA) in the context of the test, but this is a misnomer because the DNA actually originates from apoptosis of placental cytotrophoblast and syncytiotrophoblast cells. As with all screening tests, false positive (FP) and false-negative(FN) results may occur. This is due to fetoplacental mosaicism- a biological phenomenon that resulted from the presence of cells with different genetic compositions in the same individual. It usually occurs during the process of mitotic cell division. Mosaicism can be an underlying biological cause of discordant NIPT results. There are various explanations for FP and FN results with fetoplacental mosaicism, in which the cytotrophoblast but not the fetus (FP) – vice versa (FN) contains aneuploidy cell line, being a primary potential mechanism.

**The aim:** To display the potential contribution of placental mosaicism in discordant results of non invasive prenatal screening.

**Methods:** we enrolled in our study 70 cases who had different indications of using the NIPT. 66 cases resulted NIPT negative. All of them delivered normal babies. 4 out of 70 cases resulted in respectively 2 with trisomies 21; one trisomy 18, which are confirmed by amniocentesis. Only one case with abnormal sonographic findings (atrioventricular canal, femur length<5th percentile for gestational age), resulted with trisomy 21. At the time of blood drawn for NIPT her gestational age of pregnancy was 29 weeks plus 5 days. She delivered on term with cesarian section (due to obstetrical conditions) a baby with strong clinical signs for the down syndrome. The karyotype of the baby was done and resulted with trisomy 21.

**Instead of conclusion:** Despite exciting advances, underlying biologic mechanisms will allow neither sensitivity nor specificity of 100 %.

**Key words:** cell – free placental DNA; false positive rate; fetoplacental mosaicism; non invasive prenatal testing

## POSTER SESSION

## P82. Creation of an animated video for a digital health system to instruct pelvic floor muscle training for women with urinary incontinence

Naito Kiyoko (JP), Ninomiya Sanae (JP), Okayama Hisayo (JP), Saito Yoshino (JP)

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**Context:** Globally, urinary incontinence affects 35–37% of females, with a 25.5% prevalence reported in Japan. Pelvic floor muscle (PFM) training is an effective self-care method for prevention but requires individualized guidance. To address privacy and scalability challenges in group training, a video animation for a digital health system was created, visualizing PFM contraction force and bladder elevation.

**Objective:** To develop and evaluate a pelvic floor muscle training video for females using the maximum contraction force of the pelvic floor muscles (kgf) and the distance of pelvic floor elevation (mm) for a digital health system.

**Methods:** Data were collected from 3 postpartum women, measuring maximum contraction force ( $1.4 \pm 0.5$  kgf) with HnJ250 and pelvic floor elevation distance ( $14.7 \pm 5.0$  mm) with ultrasound. Visualizations were based on these values, with pelvic floor elevation modeled as increasing 10.2 mm per 1-kgf, rounded for clarity. Illustrations were created through a five-step process using Adobe Illustrator, Photoshop, and InShot to animate pelvic floor movements. This study was approved by the Ethics Committee of Biwako-Gakuin University (BIWAGAKURINN05-006).

**Patients:** Participants were three postpartum women (age:  $30.3 \pm 5.0$  years; BMI:  $21.3 \pm 1.8$ ; parity:  $1.7 \pm 0.6$ ) with no history of disorders.

**Interventions:** Data on maximum contraction force and pelvic floor elevation distance were obtained and used to create an animation illustrating pelvic floor movements during muscle contraction.

**Main Outcome Measures:** The animation visualized pelvic floor muscle strength and elevation distance based on average Japanese female data. Movements were depicted from 0 to 2.0 kgf and 0 to 20 mm in increments of 0.1 kgf and 1 mm.

**Results:** The animation effectively demonstrated the relationship between PFM strength and elevation, providing a foundation for remote PFM training in digital health systems. Further validation with larger samples is needed to confirm reliability.

**Conclusions:** Although this study created an animation video, it also showed the need for further analysis of the relationship between the maximum contraction force of the pelvic floor muscles and the distance of pelvic floor elevation by increasing the number of samples.

## POSTER SESSION

## P83. Development And Testing of New Herbal Ointment for the Treatment of Stress Urinary Incontinence

Findri-Guštek Štefica (HR), Guštek Ivana (HR), Guštek Matea (HR)

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The purpose of this work was development, formulation and testing of new herbal ointment for the treatment of stress urinary incontinence and its related symptoms. 50 women in the age range from 36 to 73 years were treated 8 weeks with vaginal ointment (2 g/day) which consisted of the following ingredients: oil macerates of the plants *Capsella bursa-pastoris*, *Urtica dioica*, *Quercus robur*, *Quercus infectoria*, *Corylus avellana*, *Ocimum basilicum*, *Salvia officinalis*, *Achillea millefolium*, *Calendula officinalis*, *Matricaria chamomilla*, *Hypericum perforatum*, *Alchemilla vulgaris*, *Thymus serpyllum*, *Plantago major*, *Symphytum officinale*; essential oils of the plants *Melaleuca alternifolia*, *Cymbopogon martinii*, *Cinnamomum camphora* ct. cineol, *Eugenia caryophyllata*, *Thymus vulgaris* ct. tymol, *Origanum vulgare*; honey; glycerin and *Cera flava*. The degree of incontinence and its impact on the quality of life prior and after the therapy was assessed by the International Consultation on Incontinence Questionnaire - Urinary Incontinence Short Form (ICIQ-UI SF), where maximum score of 21 represents permanent incontinence and 0 no leakage of urine. Sexual gratification was assessed by the Pelvic organ prolapses / urinary Incontinence / Sexual Questionnaire (PISQ-12). The variables with the highest, statistically significant influence onto degree of incontinence and its impact on the quality of life were were Urine leak and related symptoms, Menopause, Frequent urinary tract infections, Age and Number of childbirth. Significant improvement concerning both, incontinence ( $p < 0.0001$ ) and sexuality ( $p < 0.0003$ ) was observed following two weeks of the application. In the end of the study the mean value of ICIQ-UI score decreased from  $10.3 \pm 4.2$  to  $1.1 \pm 1.0$  while PISQ-12 increased from  $21.0 \pm 2.9$  to  $28.4 \pm 3.2$ . Following the eight weeks of the therapy 66% of the patients were completely dry, while other 34% exhibited only slight problems (ICIQ-UI score range 1-3). After only 7 days of the application the symptoms like burning, vaginal discharge, vaginal dryness and painful sexual intercourse decreased significantly while in the end of the treatment disappeared completely.

## POSTER SESSION

## P84. Seasonal changes in lower urinary tract symptoms in Japanese women: an online-based survey

Naito Kiyoko (JP), Ninomiya Sanae (JP), Okayama Hisayo (JP), Saito Yoshino (JP)

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**Context:** The symptoms of Lower urinary tract symptoms (LUTS) is expected to vary with the seasons due to factors such as changes in temperature and allergy-causing plants.

**Objective:** To clarify whether the symptoms of LUTS changes with seasons in Japanese women.

**Methods:** Patients: A screening survey was conducted on 5,000 Japanese women aged 20-79 years to determine whether they had LUTS symptoms, and 1,027 women who had experienced urinary incontinence or urgency were selected as participants for this study. Recruitment of participants and collection of responses were outsourced to the marketing company (Cross Marketing Inc., Tokyo). This study was conducted in accordance with the Declaration of Helsinki.

**Interventions:** Participants responded online about symptoms of LUTS over the previous month at three time points: summer (July 2023, average temperature of 56 observation points in Japan Meteorological Observatory; 27.1°C;), winter (December 2023, 7.6°C), and spring (April 2024, 16.1°C, hay fever season).

**Main Outcome Measures:** Questionnaire items were the Japanese version of the International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF, including questions about the severity of UI), number of daytime /nighttime urinations, and the presence or absence of storage symptoms, in the previous month.

Descriptive statistics, chi-square test, and Friedman's test were used,  $P < .05$  was considered statistically significant.

**Results:** 597 women completed the three surveys. The prevalence of UI was 78.1% in summer, 74.7% in winter, and 76.1% in spring, with no significant difference between the three seasons (degrees of freedom 2, chi-square value=1.888). The prevalence of increased daytime frequency ( $\geq 8$  time/day) was 26.9% in summer, 28.5% in winter, and 28.3% in spring (chi-square value=0.407), nocturia ( $\geq 1$  time/ night) was 53.9% in summer, 57.7% in winter, and 54.2% in spring (2.221), urgency was 50.3% in summer, 53.2% in winter, and 52.4% in spring (1.030). There was no significant difference between the three seasons, but the prevalence tended to increase in the order of winter, spring, and summer. The ICIQ-SF Scores were 4.0 (median, IQR 3.0-7.0) in summer, 4.5 (3.0-8.0) in winter, 5.0 (3.0-7.3) in spring, with no significant difference between the 3 seasons ( $P=.091$ ), but there was tendency for the scores to be lower in summer.

**Conclusions:** The prevalence of LUTS did not change significantly with seasons in Japanese women.



## POSTER SESSION

## P85. Surgery for hypertrophy of the labia minora of the vulva: an 8-year retrospective study

Arjona Alba (ES), Gondra Jone (ES), Hernando Amaia (ES), Lete Luis Ignacio (ES), Perez Isabel (ES), Rivera Marta (ES)

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### Context and Objective:

Vulvar hypertrophy is defined as the protrusion of the labia minora through the labia majora. Nowadays, it is an increasingly common cause why women consult and request surgery. Among the surgical techniques used for the treatment of vulvar hypertrophy, the most common are simple resection or different variants of wedge resection. In our study, we sought to analyze the results of these two different surgical techniques used, their complication rates and the satisfaction reported by patients.

### Methods:

We have carried out a retrospective, descriptive study on labiaplasties performed in our hospital in the period between January 1, 2014 and June 30, 2023, completing an analysis of 8 years of experience.

### Results:

We have performed 33 labiaplasties; with a stable incidence. The mean age was of 39 years, 36% of the patients were smokers and 90% had a Body Mass Index <30. 100% of patients consulted for functional discomfort.

Regarding to the characteristic of the vulvar laterality: 45.5% was bilateral, 21.1% unilateral and in 33.3% there was an asymmetry. The average size of the labia minora was of 4cm (2.5 cm-8cm). Concerning to the type of resection: 66.66% had a simple resection and 33.33% a wedge resection.

Postoperative mean pain using VAS was of 6.4 and average recovery time was of 28 days.

After hospital discharge, 9 patients (27%) consulted the emergency services and 4 of them (44%) for a grade I complication on the Clavien-Dindo scale. The most frequent surgical complication was dehiscence. A relationship was found between dehiscence and the type of resection, being more frequent in wedge resection vs. simple resection (p 0.002) and more frequent in smokers (p 0.230). When asked about functional and aesthetic results 79% and 76% described it as good. 79% of the patients would recommend the surgical intervention.

### Conclusions:

Labiaplasty of the labia minora is a surgical technique that is not free of complications. In our case, especially, dehiscence in wedge-type resection: the use of alternative techniques such as posterior wedge resection, de-epithelization or cold light-guided resection could be beneficial, as well as the emphasis on smoking cessation. Therefore, we must adequately advise our patients before undergoing surgery.

## POSTER SESSION

## P86. Evaluation of neutralizing antibody titers against SARS-CoV-2 JN.1 Omicron subvariant during pregnancy - A case series study

Cransquint Eva (BE), David Clara (BE), Didembourg Marie (BE), Douxfils Jonathan (BE), Favresse Julien (BE), Gillot Constant (BE), Morimont Laure (BE)

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C: SARS-CoV-2 infection during pregnancy raises concerns for maternal and fetal health. Neutralizing antibodies (NAb), generated by infection or vaccination, prevent viral entry into host cells. Their transplacental transfer may provide newborns passive immunity and therefore early protection during infancy.

O: To evaluate the production, persistence, and maternal-to-fetal transfer of SARS-CoV-2 Nabs in pregnant women, examining differences in titers based on timing of infection or vaccination, and implications for neonatal immunity.

M: This single-center, prospective study included 19 pregnant women (aged 18–50). Blood samples were collected at six time points: early pregnancy ([4–8] weeks), mid-pregnancy ([3–4], [6–7], and [8–9] months), delivery day +1, and 3 months postpartum. Umbilical cord blood was collected at delivery. Nabs titers were measured using a pseudovirus neutralization assay (pVNT) expressed as IC50 values (titers  $\geq 20$  = positive). Unpaired t-tests with Welch's correction and estimation plots were performed.

P: The study was approved by the CHR Huy Ethics committee (N° CE035 10/2022) and complies with the Declaration of Helsinki. Among the 19 patients, 11 were naturally infected and only one was vaccinated during pregnancy. Exclusion criteria included hepatic/renal insufficiency, heavy smoking, excessive alcohol use, or immunodeficiency. No data were available regarding previous infections.

M-O-M: Nabs titers in maternal serum and umbilical cord blood, analyzed for persistence, timing of infection, and transplacental transfer.

R: Of 19 participants, 63.2% exhibited at least one positive NAb titers during their pregnancy. Only 18.2% reported SARS-CoV-2 symptoms with no significant difference between symptomatic and asymptomatic women ( $p=0.28$ ). Cord blood analysis ( $n=7$ ) showed effective transplacental Nabs transfer, with higher neonatal titers when infection occurred closer to delivery. However, cord blood titers declined rapidly, suggesting limited Nabs persistence.

C: SARS-CoV-2 Nabs are detected predominantly following natural infection, with effective transplacental transfer providing short-term neonatal immunity. The rapid decline of cord blood titers emphasizes the transient nature of this protection, highlighting the need to optimize vaccination timing during pregnancy to enhance neonatal immunity. Further research to understand long-term immune responses and the role of cellular immunity in this population is needed.

## POSTER SESSION

## P87. Diversity of infectious vaginitis: results of a multicenter observational study of Neomycin-Nystatin-Neomycin-Polymyxin B combination as empirical therapy in routine clinical practice

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**Context:** Vaginal infections caused by polymicrobial associations are becoming increasingly common. In these settings, broad-spectrum combinations of antibacterial and antifungal agents are seen as a reasonable treatment choice as they ensure the elimination of pathogens, rapid symptom relief and allowing to empirically initiate therapy on the day of a patient's presentation.

**Objective:** The aim of this study was to evaluate the effectiveness of the nystatin-neomycin-polymyxin B (NNP) combination available as vaginal capsules for the empirical therapy of vaginal infections and to compare clinical and molecular diagnosis.

**Methods:** This multicenter observational study included patients with symptoms of infectious vaginitis who were to receive the NNP combination for 12 days (Polygynax®, Laboratoire Innotech International, France). The clinical diagnosis was compared with the results of microbial identification tests of the vaginal flora detected using AmpliPrime-FloroScreen PCR kits. The primary efficacy endpoint was the clinical success rate following treatment assessed by the investigator.

**Patients:** 312 patients with clinical signs of vaginitis were enrolled based on their symptoms and speculum examination findings; three patients were subsequently excluded due to the identification of sexually transmitted infections. Thus, the effectiveness analysis included a total of 309 patients.

**Results:** Multiplex PCR tests of vaginal microbiota revealed normal flora in 25.6% of patients, mixed infection in 22.2%, aerobic vaginitis in 18.5%, bacterial vaginosis in 13%, vulvovaginal candidiasis in 13%, and unspecified dysbiosis or low lactobacilli levels in 7.8% of cases. Treatment with a NNP combination was effective in alleviating clinical symptoms in 92.9% of women, regardless of their initial vaginal microbiota status. Symptom improvement occurred within 3 days, with full resolution in 7 to 8 days depending on the symptoms. A telephone survey conducted 30 days after treatment cessation showed a low rate of symptom recurrence (3.8%).

**Conclusion:** According to real-time PCR results, vaginal microbiota varies greatly in patients with vaginitis, but treatment prescription based exclusively on test results without clinical considerations should be avoided. NNP combination has demonstrated high efficacy in the management of vaginitis, with a low recurrence rate. This study supports its use for empirical therapy of vaginal infections, regardless of vaginal microbiota type.

## POSTER SESSION

## P88. Features of vaginal microbiocenosis in military women and women involved in war with complaints of abnormal vaginal discharge

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**Context:** Abnormal vaginal discharge (AVD) is one of the most common gynecological complaints. Violation of hygienic conditions, sleeping patterns, lack of hygiene products, hypothermia, irrational nutrition - all this contributes to the disruption of normal vaginal biocenosis in women involved in the war.

**Objective:** to study the peculiarities of vaginal biocenosis in military women and other categories of women involved in war with complaints of AVD in order to develop methods of timely prevention.

**Methods:** Microscopy by Hay/Ison criteria and polymerase chain reaction (PCR) of vaginal discharge.

**Patient(s):** 100 women aged 25-45 y.o. with AVD were examined, of which the main group (MG) consisted of 50 women involved in the war, and the comparison group (CG) consisted of 50 civilian women.

**Intervention(s)** - Diagnostic interventions, including microscopy using the Hay/Ison criteria and PCR

**Main Outcome Measure(s)** - Prevalence and diversity of vaginal infections in female military personnel and women involved in war.

**Results:** It was found that in addition to AVD, 90.0% women in the MG had concomitant complaints, which exceeded this figure in the CG - 72.0% ( $p < 0.05$ ). Only 10.0% of women in the MG and 28.0% in the CG had no complaints ( $p < 0.05$ ).

The analysis of microscopy according to Hay/Ison criteria showed that women in the MG were more likely to have grade III in 23,5%1 and grade IV - 12,7%2 of cases than in the CG - respectively 8,0%3 and 4,0%4 ( $p_{1-3,2-4} < 0,05$ ).

A greater variety of STI and bacterial vaginosis (BV) was found in women who participated in the war: Gardnerella vag. in 48.2% of women servicewomen, Atopobium vag. in 13.5%, and in the CG - 38.0% and 4.7%, respectively.

The study revealed a significantly higher proportion of vulvovaginitis of mixed etiology in women involved in the war at 34.0% than in civilian women - 16.0%, ( $p < 0.05$ ). BV was diagnosed in 30.0% of women in the main group and 28.0% of the comparison group; candidiasis in 20.0% and 18%; aerobic vaginitis in 10.0% and 4.0%; trichomoniasis in 2.0%. In the MG, the infectious etiology was not confirmed in only 4.0% of patients and in 34.0% of women in the CG ( $p < 0.05$ ).

**Conclusions:** in the structure of causes of AVD in women involved in war, a greater proportion of vulvovaginitis of mixed etiology with a greater diversity of microflora was found than in civilian women, where a rather large percentage was excluded infectious etiology.

## POSTER SESSION

## P89. Incidence of mycoplasma hominis, ureaplasma urealyticum and pregnancy outcome

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**Background:** Mycoplasma hominis (M. Hominis) and Ureaplasma urealyticum (U. Urealyticum) are important opportunistic pathogens that cause urogenital infections and complicate pregnancy. The aim of this study was to investigate the effects of them on pregnancy outcomes and antimicrobial susceptibilities of M. Hominis and U. Urealyticum.

**Methods:** We tested vaginal swabs obtained from 172 women for the presence of genital mycoplasmas between June 2015 and 2019 at Obstetric Gynecology University Hospital “Koço Gliozheni” and private obstetric Gynecology Clinic “PLUS” Tirana, Albania. Sociodemographic and clinical data of the women participating in the study were collected through an individual file.

**Results:** 132(76,7%) of women were pregnant with a mean gestational age 25,5(+/-4,9)weeks range 14-35 weeks. The incidence of M hominis was 5,8%, of U urealyticum 22,7%, of Mh+&Uu+(46,5%), of Mh+&Uu+ plus Polimicrobial infection was 21,5%, of Mh-&Uu+ plus polimicrobial infection 10.5% and of Mh-&Uu+ plus non Polimicrobial infection was 12,2%. PPRM occurred in 14(10,6%) of pregnant women, premature birth in 31(23,5%) and birth in term in 100(75,8%) of them. The relative risk for preterm birth was 6 times higher among women with Mh+&Uu+ plus polimicrobial infection(RR=6.0 (5% CI3. 18-11.31p,0.001) and 4.4 times higher(RR=4,495%CI 1,78-11,09 p=0,001) among women with Mh-&Uu+ plus Polimicrobial infection as compared to other women. In multivariate logistic regression model adjusted for clinical variables independent predictors of preterm birth were found Mh+&Uu+ plus Polimicrobial infection(p<0,001), gestational age(p=0.001) and number of abortions (p=0.04). (2,2 % of women with M. Hominis and (94,1%) of them with U. Urealyticum were treated with antibiotics.

**Conclusion:** The incidence of M. Hominis and/or U. Urealyticum infections in pregnant women were high. Therefore, to maintain a safe pregnancy, it is important to identify them and to use appropriate antibiotics immediately.

**Key words:** M. Hominis, U. Urealyticum, PPRM, preterm birth, treatment.

## POSTER SESSION

## P90. Chlamydia Trachomatis in women with tubo – ovarian infertility and chronic pelvic pain.

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**Objective :** To evaluate prevalence of Chlamydia trachomatis in reproduction women, who are suffering of tubo – ovarian infertility and/or chronic pelvic pain.

Chlamydia trachomatis - associated female infertility and ectopic pregnancy are caused by postinflammatory fibrosis and scarring of the upper genital tract.

The goal of the study was to identify the presence of CT in women with tubo – ovarian infertility (women with positive HSG, anovulatory women) and detection of the correlation between chlamydial infection and CPP by evaluation of the serum IgG antibodies level. All women who were seeking a child or suffering of CPP ages 16 – 35 years old were undertaken evaluation of the serum IgG antibodies level. Ovarian infertility was confirmed with the absence of ovulation during three monthly endovaginal ultrasound evaluations followed for 2 months. Tubal infertility was confirmed by hysterosalpingography, which showed women to have blocked tubes.

### Patients and Methods

We enrolled 71 patients. The anovulation was confirmed in 9 women only; 6 from 9 anovulatory women had positive IgG.

From 71 women included in our study, the chronic pelvic pain was shown in 10 women only; 6 from 10 women with CPP had positive IgG.

Blocked tubes (positive HSG) were confirmed in 10 patients but positive serum IgG antibodies in women with positive HSG were observed in 4 women only.

In related to the number of sexual partners : in women with one male sexual partner prevalence e IgG antibody was 13.8%, while in women bothmale sexual partner this value was increased almost two times.

**Conclusion:** The association between the presence of serum IgG antibodies and salpingitis isthmica nodosa with tubal occlusion underlies the significance of repeated chlamydial infection in tubo – ovarian infertility and women with chronic pelvic pain.

Key words: hysterosalpingography – HSG; chronic pelvic pain – CPP, blocked tubes – positive HSG, Chlamydia trachomatis-CT

## POSTER SESSION

## P91. Reproductive outcomes in a population of women with infertility and congenital uterine anomalies

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**Context:** Congenital Uterine Anomalies (CUA) are often diagnosed during an infertility evaluation and may be associated with infertility and obstetric complications, though their impact on reproductive outcomes is still controversial.

**Objective:** To evaluate the reproductive and obstetric outcomes in women with CUA.

**Methods:** Women's baseline characteristics, reproductive outcomes and obstetric complications were recorded and compared between women with CUA and a normal uterus.

**Patients:** Women with CUA (n=50) and control group (n=40) who underwent assisted reproductive treatments between January 2014 and December 2023

**Interventions:** Retrospective cohort study.

**Main Outcome Measures:** Pregnancy and live birth (LB).

**Results:** Baseline characteristics were not significantly different between CUA and control group, including age, markers of ovarian reserve, body mass index and previous miscarriage. Despite, CUA group showed longer infertility duration (50.1 29.6 vs 37.1 16.4 months,  $p=0.034$ ) and a lower proportion of tubal factor infertility (30% vs 57.7%). There were no significant differences between study and control groups regarding the number of collected oocytes (9 vs 7,  $p=0.687$ ), mature oocytes (6 vs 4,  $p=0.287$ ), fertilization rate (50.9 34.9 vs 61.2 36.9,  $p=0.183$ ) and embryos available for transfer (1 vs 1,  $p=0.640$ ). CUA group had no significant differences from control group in cumulative pregnancy [44% (22/50) vs 32.5% (13/40),  $p=0.286$ ] and LB rates (36% (18/50) vs 22.5% (9/40),  $p=0.247$ ), first-trimester pregnancy loss (13% vs 36.4%,  $p=0.178$ ), preterm delivery (5.3% vs 0%,  $p=1.000$ ), fetal growth restriction (5.3% vs 14.3%,  $p=0.474$ ), and cesarean delivery (36.8% vs 42.9%,  $p=1.000$ ). A subgroup analysis of CUA classes have shown that women with hemi-uterus had the lowest pregnancy rate (n=4, 25%), compared to partial septate uterus (n=32, 46.9%), complete septate uterus (n=5, 40%), complete bicorporeal uterus (n=6, 50%) and bicorporeal septate (n=1, 100%). There were no pregnancies in women with partial bicorporeal uterus (n=2). Pregnancy rate was similar between septate and normal uterus. Women with a partial septate uterus who underwent septoplasty had a lower LB rate than those who had no surgical intervention (14.3% vs 44%). Contrary, women with a complete septate uterus had a higher LB rate when submitted to septoplasty (50% vs 33.3%).

**Conclusions:** The assisted reproductive outcomes of women with CUA did not differ from those with a normal uterus.

## POSTER SESSION

## P92. The state of the vaginal microbiome in women with hyperproliferative diseases of the uterus under the influence of long-term stress in conditions of military aggression

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**Context.** As a result of long-term stress, military aggression has a negative effect on women's reproductive health. Vaginal microbiota plays a key role in women's health and reproduction.

**Objective.** To investigate and analyze the species and quantitative composition of the vaginal microflora in women with hyperproliferative diseases of the uterus in conditions of military aggression.

**Methods.** To assess the species and quantitative composition of the vaginal microflora in woman, bacteriological studies were conducted.

**Patients.** Were examined: 1 group – 30 women who were in the occupied territories; 2 group – 30 women who were under the influence of the factors of the military conflict (Kyiv city and Kyiv region); 3 group – 30 internally displaced women during the military conflict. The control group consisted of 30 healthy woman.

**Results.** In patients of all examined groups there was no difference in the frequency of detection of sexually transmitted infections: Chlamydia trachomatis 10.0-13.3%; Ureaplasma urealyticum 13.3-30.0%; Mycoplasma hominis 10-30%. In group 1, bacterial vaginosis was diagnosed in 43.3%. The frequency of sowing enterobacteria was 10.0-16.7%, gram-positive cocci 13.3-20.0%, increased Candida albicans contamination was determined up to 20.0%. Lactobacillus deficiency was found in 76.7% of those examined. In group 2, bacterial vaginosis was diagnosed in 10%. Vaginosis-associated microflora 10.0-16.7%, gram-positive cocci with pathogenic properties and enterobacteria with pathogenic properties were determined as part of bacterial associations, respectively 10.0-13.3% and 6.7-10.0%. The frequency of sowing Candida albicans was 13.3%. Lactobacillus deficiency was established at 6.7%. In group 3, contamination of the vagina with enterobacteria with pathogenic properties was detected in 10.0-13.3%, gram-positive cocci with pathogenic properties 16.7-20.0%. Candida albicans was detected in up to 13.3%. The frequency of diagnosis of bacterial vaginosis was 26.7%. Deficiency of lactobacilli was established in 73.3%.

**Conclusions.** The obtained data established a negative effect of long-term stress on the condition of the vaginal microbiome of women with hyperproliferative diseases of the uterus in conditions of military aggression.





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