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Counseling HIV-positive women desiring to conceive

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Sexual and reproductive well-being is a major aspect of good health and is an integral part of being a woman. For a HIV-positive woman, sexual and reproductive health represents a more complex issue, and these women encounter unique challenges regarding their relationships, sexual satisfaction, and also childbearing. Rates of pregnancy among women living with HIV (WLHIV) have increased during the past decades, with the availability of HIV treatment, making the planning for pregnancy an increasingly important element of WLHIV care. Preconception counseling for WLHIV, including the

assessment of fertility and the presentation of health recommendations regarding conception, may diminish the risk of birth defects, preterm delivery, low birth weight, fetal loss and vertical or horizontal transmission of HIV. These aspects greatly influence the reproductive decision-making and the potential gaps in knowledge highlight the need to inform and educate the women living with HIV desiring to procreate and to help them explore how and with whom they reach this goal.

Keywords: reproductive health, HIV positive, WLHIV, pre-conceptual counseling

The preference of women with prolapse for one-off surgical treatments rather non-surgical treatments. A qualitative study

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Although there are increasing varieties of available treatments for pelvic floor disorders such as pelvic organ prolapse (POP), these conditions affect many women worldwide. Interestingly, there has been relatively little work on qualitative studies assessing what women expect from treatment, being a complex process controlled by the severity of symptoms, and different treatments achieved. The present qualitative study aimed to outline women's perceptions on novel

treatment modalities for prolapse which interact in decision-making. By conducting interviews with women with POP, we noticed that they prefer a one-off surgical treatment rather than a non-surgical treatment. Therefore, women with pelvic organ prolapse tend to choose a treatment with a finalized result rather than with an improved result.

Keywords: pelvic organ prolapse, qualitative study, surgical treatment, interview

Drug-induced acute fatty liver of pregnancy – case presentation

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Acute fatty liver of pregnancy is a potentially fatal condition, with an incidence of 1 in 15,000 pregnancies. The reported associated maternal and perinatal mortality exceeds 70%. With prompt and correct diagnosis and management, this percentage decreases to about 20%. The diagnosis may be challenging due to nonspecific clinical presentation, therefore the best approach remains the exclusion of the most common liver diseases in pregnancy. We report a case of acute fatty liver of pregnancy

in a 38-year-old secundiparous patient, with 36 weeks of gestation, diagnosed with postpartum dilated cardiomyopathy after her first pregnancy, who presented with severe jaundice, nausea, vomiting, liver enzymes increased over a hundred times and severely increased direct and indirect bilirubin values. The prompt diagnosis and the multidisciplinary approach led to a successful outcome of this case.

Keywords: acute fatty liver, liver enzymes, cardiomyopathy

Birth management in pregnant women with SARS-CoV-2

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The COVID-19 pandemic is continuously affecting many pregnant women around the world. Due to the immunosuppression associated with pregnancy, pregnant women infected with SARS-CoV-2 are at an increased risk of developing severe forms compared to non-pregnant women. Analyzing international studies that reported COVID-19 cases among pregnant women, most infections occurred in the second trimester of pregnancy, with 15% of them requiring hospitalization. Of the total number of pregnant women, 64% gave birth by caesarean section. Evidence has shown that maternal oxygenation can be restored quickly after giving birth. In parallel, new scientific papers have reported placental infection during COVID-19, leading to placental vascular disease, preeclampsia-like syndrome, fetal growth restriction and increased risk of

perinatal death. Avoiding these adverse events could justify the increased birth rate by caesarean section. Also, some women in labor end up giving birth by caesarean section due to the prophylactic use of anticoagulants or antiplatelet agents against thromboembolism related to COVID-19, thus preventing the administration of epidural anesthesia and therefore increasing the incidence of bleeding during labor. Most caesareans are performed to reduce excessive ventilation and stress during labor, as these may worsen the respiratory and proinflammatory conditions due to COVID-19. This justifies caesarean section surgery in the case of mild forms of the disease. Experts believe that premature birth can bring considerable benefits to the treatment and subsequent outcome of COVID-19.

Keywords: pregnancy, COVID-19, caesarean section

The 21st century paradigm shift in first-trimester aneuploidies screening

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The first-trimester screening represents a distinct moment in pregnancy to assess genetic anomalies, and the appointment usually takes place between 11 and 13+6 weeks of gestation. While the double test is considered the gold standard in aneuploidy screening, cell-free DNA is increasingly preferred among practitioners today. For a double test to be performed correctly, the examiner should have undergone specific training, while cell-free DNA only requires a blood test. An advantage of cell-free DNA testing is the broader interval in pregnancy when it could be performed, from 10 to 24 weeks of gestation. Nevertheless, while the double test results come out in a couple of days, it may take 10-15 days to obtain the cell-free DNA results. Thus, the cell-free DNA test result may be released after the 14th week of gestation. During ultrasonography, the examiner has the opportunity to visualize the integrity of the fetus, along with the secondary sonographic markers, which may

increase the sensitivity of the double test. Preferring the cell-free DNA in the first place might overlook significant structural malformations, only exposed at the second-trimester screening. In this scenario, a normal result would mislead both the physician and the woman, dismissing the possibility of terminating the pregnancy in the first trimester. Furthermore, a high-risk score resulting from the double test might be reappraised non-invasively by cell-free DNA testing. A false-positive result of cell-free DNA testing would require a non-necessary invasive confirmation method (such as amniocentesis). In conclusion, even though the cell-free DNA testing is compelling, we state that it is more judicious to respect the current guidelines and use it as a second intention, maintaining the double test as the investigation of choice in aneuploidy screening.

Keywords: double test, cell-free DNA, screening, guidelines, amniocentesis

Taking advantage of PRP in gynecological pathology

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Platelet-rich plasma (PRP) therapy arises and takes over as an innovative and non-surgical treatment option in a broad spectrum of medical fields. It targets the self-healing ability of the human body by increasing neovascularization and collagen formation through the effect of high concentration autologous growth factors administered to the tissue. This process is activated upon stimulation by exposure to thrombin, calcium or collagen *in vivo*. The outcome is the repair of damaged tissue and the rejuvenation of aged cells. The autologous nature, which satisfies the safety profile for reduced immune reactions, and its inexpensive development establish PRP treatment as a safe, reliable and "handy" approach. In various gynecological afflictions, PRP administration is an alternative non-hormonal, non-surgical therapy. Literature reveals ingenious and significant effects of PRP treatment in women with sexual dysfunction, stress urinary incontinence (SUI), episiotomy scars

and vaginal atrophy. Recent studies highlight PRP's effectiveness in treating women with SUI for as long as six months post-treatment. After PRP injections in the anterior vaginal mucosae, an immediate response can be observed due to the increased blood flow, vascular permeability and interstitial edema. This process is followed by PRP's long-term modulation effect on the fibrogenic process. Regarding vaginal atrophy, the tissue regeneration following PRP treatment appears to be a promising alternative therapy, without the "scary" side effects the hormonal therapy can display. It is also worth mentioning the significant influence of PRP therapy in sexual dysfunction stated by numerous studies. All in all, PRP treatment is an inexpensive, minimally invasive, easy and fast to apply method, with almost no side effects, of which many physicians may take advantage.

Keywords: vaginal PRP, stress urinary incontinence, sexual dysfunction

A rare case of gestational pemphigoid – case report

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Gestational pemphigoid (GP) is a rare autoimmune skin condition that is similar to the pemphigoid group of autoimmune skin diseases, characterized by an immune response directed against hemidesmosomal proteins involved in the adherence between the dermis and epidermis, causing blistering of the skin and in the mucosa. GP mainly affects multiparous women, with symptoms emerging in the second and third trimesters, although the onset in postpartum or the first trimester of pregnancy has been documented. Clinically, the condition is characterized by polymorphic skin eruptions with intense pruritus. In severe cases, the skin lesions develop into erythematous patches and plaques followed by urticarial rash and blisters. Typically, itching begins usually around the navel associated with red papules, urticarial plaques or annular target lesions followed

by blistering a few weeks later. In 90% of cases, it will spread to the whole abdomen and can involve the chest, thighs, palms and soles, sparing the face and mucous membranes. Since GP is a rare skin condition, the diagnosis can be tricky and dermatologists need to rule out the most frequent skin disorders before thinking about GP. A skin biopsy may be required. The prognosis is good, but gestational pemphigoid is associated with some fetal risks such as prematurity and fetal growth restricting, therefore prenatal monitoring with a multidisciplinary team including a dermatologist is recommended. We present the evolution and outcome of a case from our clinic of a multiparous woman with GP diagnosed in the third trimester of pregnancy.

Keywords: gestational pemphigoid, pregnancy, skin disease

The management of acute *Toxoplasma gondii* infection during pregnancy

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Toxoplasmosis is a cosmopolitan parasitic disease, common to humans and animals, caused by the infection with protozoan *Toxoplasma gondii*. It is a parasitic zoonosis found in all species of mammals and birds, domestic and wild, with major epidemiological importance for humans. The role of *Toxoplasma gondii* screening in pregnancy has become particularly important in recent years due to the possible negative effect of the infection on both mother and the conception product. The severity of congenital toxoplasmosis depends on the type of infection (whether it is the first time the pregnant woman is infected with *Toxoplasma gondii* or is a reactivation of an older infection), the gestational age when infection occurs, and the mother's immune system. Acute primary infection during pregnancy may be asymptomatic for the mother, but it can cause a severe congenital infection,

with significant fetal neurological and ocular sequelae or even pregnancy loss. The first step in diagnosing the infection is to perform a serological profile, including IgM, IgG, IgE and IgA. In case of suspected acute infection, serological testing should be repeated and, until the results are available, the treatment with spiramycin should be administered. Following the research, it is worth mentioning that TORCH serology should be introduced as a screening test for all pregnant women, as well as for all women of childbearing age who wish to become pregnant, due to the serious effects of the infection on both fetus and mother. This paper aims to present a protocol for the diagnosis and treatment of acute *Toxoplasma gondii* infection in pregnancy.

Keywords: *Toxoplasma gondii*, TORCH, management, pregnancy

Melatonin – the antiaging molecule

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Melatonin is a pleiotropic molecule secreted primarily by the pineal gland but produced by most cells in the human body. It regulates the biological rhythms via its receptors located in the suprachiasmatic nuclei of the hypothalamus, but it is also a powerful antioxidant that scavenges free radicals such as reactive oxygen species (ROS). Melatonin receptors have been found in a variety of cell types in the female reproductive tract uterus. It is found in high concentrations in follicular fluid, and the quantity is proportional to follicular growth. Previously unknown, the role of melatonin in follicular fluid is to serve as a defense mechanism against ROS generated in follicles, protecting the oocytes and granulosa cells from oxidative damage. As age is such an important factor in fertility, the biggest

challenge reproductive medicine faces is how to slow down the process of ovarian decline. ART success rates take a downturn with increasing age due to poor quality oocytes. Oocytes are targeted to various types of damage in an age-dependent manner over long periods of time, with dysfunction noted in organelles such as mitochondria and nuclei. It is well known that oxidative stress caused by ROS contributes to age-induced impairment of oocytes, mitochondria and nuclei. There are currently no effective medications that target ovarian aging. That is why the clinical application of melatonin in reproductive aging could impact reproductive medicine and improve ART outcomes.

Keywords: antiaging, melatonin, reproductive medicine, ART

Management of cerebral neoplasia during pregnancy

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Brain cancer during pregnancy is an unusual event with a poor resolution due to its signs and symptoms that can be confounded with those of pregnancy. Complications like infections and hemorrhages can occur due to multiple tumoral surgeries and these may represent another risk factor and can increase the morbidity and mortality. One of the most important facts we noticed in our two cases we encountered is that both patients were very young (25 years old and, respec-

tively, 26 years old) and both were pregnant when the diagnosis was established. The histopathological exam revealed different results, as one had glioblastoma and the other had anaplastic oligodendroglioma. The last one needed multiple intervention due to complications. In both cases, the newborns had a favorable evolution and the patients started radiotherapy after delivery.

Keywords: pregnancy, brain cancer, young women, oligodendroglioma, glioblastoma

Endometriosis in post-menopausal years

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Introduction. Endometriosis is an estrogen-dependent chronic inflammatory disease defined as the presence of endometrium-like tissue outside the uterus. Due to the steroid-dependent nature of the disease, it was considered that endometriosis lesions regress and most frequently disappear after the menopause, but more recent information showed that women with a history of endometriosis may experience the worsening of symptoms and the reactivation of residual disease. **Materials and method.** We present our clinic experience and a systematic review concerning endometriosis in menopause, manifestation, management and treatment. **Results.** The prevalence of postmenopausal endometriosis is estimated to be about 2-5% of all patients diagnosed with endometriosis. As it is well known, no existing theory can explain the development of all endometriosis lesions. It is believed that, in early menopause, endometriosis is due to an estrogen responsive tissue – for example, increased ovarian estrogen secretion during the first years of menopause or conversion of precursor steroids to estrogens in peripheral tissue. During the late menopause, endometriosis can be explained by genetic and/or epigenetic incident causing estrogen-independent progression, increased sensitivity to estrogens or increased local production of estrogens. Menopausal hormone therapy is believed to stimulate the growth of endometriosis. However,

endometriosis has also been reported in postmenopausal women who do not use hormone therapy, which underlines the complex pathogenesis of this disease. Knowing the increased potential risk of underlying malignancy in this population, hormone therapy approaches are more limited and it is suggested that the first-line treatment for endometriosis in postmenopausal patients should be surgical. **Conclusions.** Although it is a rare disease, peri- and post-menopausal endometriosis should be taken into account due to the risk of disease recurrence and malignant transformation. Understanding the genetic or epigenetic incidents involved, the hereditary incidents and the environmental factors will be important for prevention, diagnosis and therapy. Postmenopausal endometriosis seems to expose the patient to a higher risk of malignant transformation. Due to the lack of high-quality studies, the therapeutic conduct in patients with a history of endometriosis during menopause is not clear. The surgical excision should be taken into consideration due to the risk of disease recurrence and malignant transformation. Multicenter randomized trials or large observational studies are needed to inform clinicians and patients alike.

Keywords: endometriosis, menopause, surgical treatment, menopausal hormone therapy, malignant transformation

Limb anomalies: first-trimester prenatal diagnosis

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Introduction. The assessment of the fetal limbs is a standard practice of the first-trimester screening at 11-14 weeks. The assessment of the fetal skeletal system in the first trimester of pregnancy provides a real advantage due to the fact that in late gestation fetal crowding makes evaluation more challenging. **Materials and method.** This is a retrospective study of cases with limb anomalies diagnosed in our department, the Clinic of Obstetrics and Gynecology of the University County Emergency Hospital Craiova, during the 11-14 weeks screening scan. We had a number of 312 cases included in our study, from April 2020 to February 2022. All cases had to meet the following criteria: the fetuses must have a CRL between 45 and 84 mm, all assessments had to fulfil the recommendations of the national guide for ultrasound screening for fetal anomalies in the first trimester of pregnancy,

and all cases must have detailed images or movies showing all four limbs. **Results.** We had a total of five cases of limbs anomalies, either isolated, or as part of a syndrome. We had one case of club foot, one case of abnormal position of the feet as part of a trisomy 18 and one case of partial lower limb amputation as part of an amniotic band syndrome. Regarding the upper limbs, we had one case of polydactyly and one case of congenital forearm agenesis. **Conclusions.** Detailed ultrasound of the fetal limbs at 11-14 weeks may reveal an important number of cases of limb anomalies that were previously diagnosed at the 20-week scan. The key is obtaining images and films that illustrate the structure motion of the limbs. Transvaginal ultrasound is helpful for detailed imaging.

Keywords: fetal limbs anomalies, 11-14-week scan, fetal skeletal system

Hyperglycemia in pregnancy

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In the modern world, we assist of the vicious cycle of intergenerational diabetes, obesity and metabolic disturbances. The use of more inclusive criteria for gestational diabetes mellitus (GDM) diagnosis may benefit individual women and their offspring in terms of immediate pregnancy outcomes and it also – very importantly – gives a vital opportunity to improve lifetime maternal metabolic and cardiovascular health. There are vital questions for future research, which should focus on determining whether the substantial group of women

(and their offspring) who experience "hyperglycemia without meeting criteria for diabetes" in terms of GDM diagnosis achieve a reduction in adverse outcomes from the identification and treatment of maternal GDM, both from the maternal and offspring perspective, and both in the short and long term. Based on a case control study and individual cases, we will present a modern approach on glycemic disturbances in pregnancy.

Keywords: pregnancy follow-up, screening, gestational diabetes mellitus, pregnancy outcome

Successful management of renal clear cell carcinoma in pregnancy – case report

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Introduction. Renal cell carcinoma is rarely diagnosed during pregnancy, as the clinical presentation might resemble other pregnancy-related disorders. It is mostly an incidental finding (e.g., on abdominal ultrasound), but the symptoms in advanced cases may include a palpable mass, followed by pain and hematuria. The landscape of renal cell carcinoma management has changed during the past few years, but surgery remains the main stay modality, if localized. Renal tumors found in pregnant patients require an individualized treatment regimen involving the safety of the pregnancy, surgical timing, routes and techniques, which should be decided in multidisciplinary teams, as any intervention presents risks to both mother and fetus. **Materials and method.** We present the multidisciplinary management of a 36-year-old patient presented for the first time at the hospital at 21 weeks of gestation for macroscopic hematuria. The imagistic investigation revealed the presence of a renal tumor. An ultrasound guided biopsy was taken and the cytopathological result was highly suspicious for neoplasia. The patient was admitted to our hospital at 27 weeks of gestation with severe anemia and a second episode of macroscopic hematuria. After extensive counseling and consultation with the urologic staff, it was decided to postpone the surgical intervention and to initiate corticotherapy for fetal

lung maturation. Multiple transfusions and iron preps were administrated to control the maternal severe anemia. **Results.** The patient underwent induction of labor at 34 weeks of gestation and a 2000 g boy was delivered by emergency caesarean section for maternal interest. The postoperative recovery was uneventful. The patient was transferred to the "Prof. Dr. Th. Burghel" Clinical Hospital, Bucharest, for performing the nephrectomy. The histopathological findings revealed a clear cell carcinoma with reginal invasion. **Discussion.** The management of renal mass during pregnancy is a challenging topic. The incidence of cancer among pregnancy presents as a significant diagnostic challenge for clinicians, especially with considerations for maternal-fetal well-being. It is a very rare entity and it represents a daunting therapeutic dilemma for the urologist and obstetrician due to the lack of standard guidelines. Nevertheless, in case of any malignancy, maternal health should be prioritized followed by fetal morbidity and malignancy, hence an educated decision must be made after informing the patient of all the associated risks and management options, in the presence of a multidisciplinary team of medical professionals.

Keywords: renal carcinoma, pregnancy, multidisciplinary approach

US imaging in obstetrics and gynecology – from “I see” to “I know”

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Since its first diagnostic application in obstetrics and gynecology in the 1950s, ultrasound (US) recorded impressive technical advances. This technology has become the method of choice in chronic and acute gynecological conditions and an integral part of routine obstetric care. As scanning became an important part of residency training, young practitioners cannot imagine practicing obstetrics and gynecology without ultrasound. As the equipment becomes ever more sophisticated and technical skills are improving, both clinicians' and patients' expectations have increased. Parents' expectations as to what can or should be identified have particularly increased. Despite all the benefits of US use in obstetrics and gynecology – either already proved or potential only –, there are still many potential pitfalls. In this setting of high technology and high patients flow, the potential for misdiagnosis, underdiagnosis and overdiagnosis remains.

In this paper, we discuss the various applications of ultrasound in obstetrics and gynecology and its limits one can encounter in daily practice; this is reviewed in an illustrative case-presentation format. We share our experience in typical and rare obstetrics and gynecology cases, addressed in our tertiary US unit, part of an emergency public hospital. Isolated (minor and major) congenital cardiac diseases, evolving fetal diseases, US semiology of the placenta, complex congenital Müllerian anomalies, uterine carcinosarcoma, pelvic tumors and unexpected postpartum/postoperative diagnosis are presented. Also, the importance of the long-term follow-up in obstetrics and gynecology cases, the critical need for a multidisciplinary approach, the difficulties and the challenges of the counseling following the US examination are highlighted.

Keywords: ultrasound, diagnosis, pitfalls, follow-up, multidisciplinary team

Cervical pessary use in pregnant women with short cervix during the COVID-19 pandemic

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Spontaneous preterm birth (SPTB), defined as delivery before 37 weeks of gestation, remains a significant obstetric dilemma even after decades of research in this field and the leading cause of neonatal mortality and morbidity in developed countries. A short cervix is an important predictor of SPTB and several treatment strategies have been proposed. The cervical pessary has been tested as a possible intervention to prevent SPTB in singleton pregnancies. There is still conflicting evidence regarding the efficacy of it. The prevailing thought is that the pessary works similar to a mechanical device that keeps the cervix closed during pregnancy and also alleviates the amount of pressure on the cervix by shifting the angle of the cervix. The purpose of this case series is to provide preliminary proof on the utility of cervical pessary application in women with short cervix, especially during the COVID-19 pandemic. Between March 2020 and March 2022, 42 pregnant women were followed-up with Arabin pessaries in our clinic. Cervical pessary proved to be an inexpensive and less invasive option to cervical cerclage

in pregnant women with shortened cervix. Pessary application and removal did not require anesthesia. Almost all the pessary users complained of increased vaginal discharge due to foreign body irritation after the use of a cervical pessary. No vaginal infections were demonstrated. Forty patients delivered after 34 weeks of gestation and only two patients delivered before 34 weeks of gestation. During the pandemic, the pessary use, instead of cervical suturing, has decreased hospital stays and reduced healthcare costs and proved to be a feasible alternative for the prevention of preterm delivery. Regarding the compliance and the tolerance, most women reported having a positive experience and that they were motivated to continue the treatment when they were continuously followed-up by an experienced clinic. This limited case series underlines that cervical pessary can be a trustworthy option for the prolongation of pregnancy and may represent special importance to health services in low-resource countries.

Keywords: cervical pessary, short cervix, preterm delivery, pandemic

Approach to ovarian tumor masses

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Ovarian tumors are a frequent pathology in women of all ages. When diagnosing an adnexal mass, a race begins to find out its benign or malignant character. The history of biomarkers and ultrasonography dates back more than 50 years. The use of biomarkers in ovarian cancer, such as CA125 and multivariate index tests (Ova1, Ovarian Malignancy Risk Algorithm, Overa), allows for more effective diagnosis and monitoring of cases. The diagnosis and screening for ovarian cancer

rely on biomarkers and imaging. Because the diagnosis is currently over 70% in advanced stages of cancer, there is interest in developing a screening plan for early-stage ovarian cancer. This paper aims to present current trends in addressing ovarian tumors to identify ovarian cancer, with a focus on screening and early diagnosis, as well as differential diagnosis.

Keywords: ovarian cancer, screening, biomarkers, early diagnosis

Fertility sparing in a young woman with invasive cervical cancer

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Cervical cancer is the fourth most common cancer among women worldwide, and even though it is preventable, it remains the second gynecological cancer, with a high mortality. Due to implemented screening programs – Papanicolau (PAP) smears and human papillomavirus (HPV) testing and vaccine programs – in western countries, the incidence of cervical cancer is decreasing. The most common type of cervical cancer is the squamous cell carcinoma, followed by the adenocarcinoma (which is more difficult to diagnose). Cervical cancer occurs after untreated cervical dysplasia usually associated with HPV infection. Generally, from cervical dysplasia to cervical cancer it takes several years. In early stages, the cervical cancer is asymptomatic, but in rare cases it

may be associated with bleeding after intercourse, intermittent spotting or watery vaginal discharge. We present the case of a 30-year-old patient who presented to our clinic for postcoital bleedings. Before the presentation, the patient performed a cervical smear with a negative result for intraepithelial lesions or malignancy and an HPV testing which was positive for HPV high risk 16. Following the gynecological examination, a suspicious lesion of the cervix was detected and a colposcope guided biopsy was performed, with invasive cervical carcinoma as a histopathological result. The particularity of this case is the young age of the patient and the need for fertility preservation.

Keywords: HPV, cervical cancer, fertility sparing

Voluminous vulvar lipoma: case report and literature review

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Introduction. Lipomas are represented by tumors rarely over 2 cm in size that are located typically in the subcutaneous tissue of patients, composed of adipose cells, often encapsulated by fibrous tissue. Vulvar localization of lipoma is rare, but is the second most common tumor at this level. The differential diagnosis must be made with pathologies such as liposarcomas, Bartholin's cyst and abscess, lymphadenopathy, inguinal hernias or Nuck canal cyst. **Case presentation.** We report the case of a 23-year-old woman who presented with a giant right vulvar tumoral mass compressing the vagina and covering the

introitus, with pain associated. Ultrasound images identified a non-homogenous tumoral mass with weak Doppler signal. **Results.** Surgery was performed and the vulvar mass was fully excised, the intraoperative appearance being suggestive for lipoma, afterwards the histopathological exam confirmed the diagnosis. **Conclusions.** The particularity of this case was the presence of a vulvar giant tumoral mass that developed in a relatively short time into a young patient. The proper clinical and paraclinical diagnosis leads to a successful management.

Keywords: vulvar lipoma, benign tumor, soft tissue

Polycystic ovarian syndrome – what’s new?

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Introduction. Although several criteria may be applied, polycystic ovarian syndrome (PCOS) is still underdiagnosed, primarily because clinicians misunderstand the importance of clinical diagnosis. **Materials and method.** We present the most recent data from literature regarding the diagnosis algorithm, treatment and prophylaxis of long-time complications of PCOS. **Results.** Described from Antiquity by attentive and caring clinicians like Hippocrates and Soranus of Efes or during Middle Age by Ambroise Pare or Vallisneri, PCOS is nowadays diagnosed also primarily by clinical criteria. The Rotterdam criteria are: menstrual irregularities, symptoms (or findings) of hyperandrogenism and polycystic ovaries on ultrasound (US) examination. Two of the three criteria are required for diagnosis. We acknowledge several phenotypes: phenotype A (the classic one, with all three criteria), phenotype B (no US criteria), phenotype C (hyperandrogenism and polycystic

ovaries in ovulatory women) and phenotype D (irregular menstrual cycles and polycystic ovaries in the absence of documented hyperandrogenism). Subfertility or infertility due to anovulation and complications during pregnancy (high spontaneous abortion rate, diabetes and hypertension, fetal macrosomia) are of great concern. The long-time consequences of PCOS are: weight gain and metabolic syndrome, type 2 diabetes, cardiovascular risk (hypertension), non-alcoholic fatty liver disease, increased risk of several cancers (endometrial, ovarian, breast, colonic and rectal), sleep apnea, anxiety and depression. **Conclusions.** Timely diagnosis and basic life style changes (mainly diet) are essential not only for gynecological and obstetrical reasons (regular menstruation, ovulation, fertility), but for prophylaxis of long-time consequences of PCOS.

Keywords: polycystic ovarian syndrome, life style changes

Prediction of labor outcome based on clinical and ultrasound data in primiparous women at term

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Objective. To investigate the potential of combined sonographic and clinical determinations to predict the mode of delivery at term. **Materials and method.** This observational prospective cohort study was deployed in a tertiary maternity hospital (University County Emergency Hospital Craiova). Unselected low-risk primiparous pregnant women were weekly evaluated at term for ultrasound determinations (estimated fetal weight [EFW]), head descent parameters, occiput position [OP], cervical length), Bishop score and maternal characteristics (age, height, weight). A thorough statistical analysis determined which variables were significantly correlated with the delivery mode. **Results.** Data from 276 term primiparous were analyzed. Head descent parameters were strongly and significantly correlated with each other, but only progression distance (PD) was correlated with the delivery mode (weeks 37, 38, 41, and the week before delivery). The week before delivery (WBD) measurements of head to perineum distance (HPD) and angle of progression (AOP) reached a close to significance p level: 0.055 and 0.07, respectively. The following variables were significantly correlated with the delivery mode: BMI in all term evaluations,

along with PD measured at 37 and 38 weeks, maternal age for week 39, Bishop, EFW and OP for week 40 and BMI, EFW, and PD evaluated during the WBD. We have also provided logistic regression equations for each week that correctly forecasted the delivery mode, except for week 38. Cut-off values have been established for each significant parameter per week. The cut-off values must be read in conjunction with the AUC, which ranges from 0.55 to 0.73, depending on the variable. **Conclusions.** There are strong and significant correlations between the “head descent” ultrasound measurements at term. BMI is predictive regarding labor outcome throughout term evaluations. PD and BMI measured at 37-38 weeks correlate with the delivery mode and apparently can be used to forecast the delivery mode when the pregnancy reaches term. WBD measurements of EFW and PD can be used to forecast the delivery mode, perhaps within a policy addressed to pregnant women with pre-labor clinical signs. Larger studies are needed, due to the need for more and better-balanced data.

Keywords: labor outcome, delivery mode, vaginal delivery, caesarean delivery, transperineal ultrasound, pelvic examination, head descent, term pregnancy

Updates from recent guidelines regarding immunization during pregnancy, excluding COVID-19 vaccine

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Immunization has been an important part of preventive medical care for both adult and children for decades, but the past two years are reminding us of this field more than ever. The vaccination of the pregnant woman was proven useful not only in protecting the mother, but also the offspring regarding some pathologies. As an example, even though influenza vaccines were not studied enough 20 years ago and were not recommended during pregnancy by most of the important guidelines' providers, today all the international medical associations consider it safe for administration at this time in the woman's life. We have reviewed the latest sets of recommendations for immunization during pregnancy developed by some of

the major medical associations in the field, in order to assess the news in vaccination during pregnancy. Among the most important sources are the American College of Obstetricians and Gynecologists (ACOG), the European Board and College of Obstetrics and Gynecology (EBCOG), World Health Organization (WHO) and, also, other online sources such as UpToDate. The vast amount of literature emerging in the field of COVID-19 vaccination led to numerous opinions and recommendations on this matter that have already been widely published and disseminated in the past year, including the effects of this vaccine during pregnancy, so this topic was excluded.

Keywords: immunization, vaccination, pregnancy

The importance of histopathological examination in the diagnosis of myxoid leiomyosarcoma

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Mixed malignant mesoderm sarcomas (MLMS) are a rare subtype of malignant tumors with a myometrial origin. Usually, this pathology is diagnosed in menopausal women and has a fast evolution, with an unfavorable prognosis. This study analyzed data from the literature, which were subsequently correlated with a case of MLMS confirmed by classical histopathological examination and immunohistochemistry. It was performed total hysterectomy with bilateral adnexectomy. The clinical manifestations found in MLMS are the presence of a pelvic-abdominal tumor mass, accompanied by abdominal pressure, discomfort and vaginal bleeding. Imaging investigations such as pelvic ultrasound (US), computed tomography (CT) and magnetic resonance imaging (MRI) may suggest the diagnosis, but only the histopathological exam confirms it. From a macroscopic point of view, MLMS has a soft, gelatinous structure, compared to leiomyofibromas, with a hard and spiral structure. Another feature of MLMS is the infiltrative, irregular-looking tumor margin. The microscopic aspects of this malignant tumor are nuclear pleomorphism, necrosis of tumor cells, the presence of myxoid matrix, and variable mitotic activity. Due to the classic hematoxylin-eosin staining, the uterine smooth muscle has a leiomyomatosis structure, with the presence of multiple nodular formations suggestive for malignant tumor proliferation, probably of mesenchymal origin. We have shown that tumor cellularity is highly reactive to the anti-Vimentin antibody, an immunolabeled type III intermediate filament (IF) protein found

in mesenchymal cells through special immunohistochemical techniques, demonstrating the mesenchymal origin of the tumor. The positivity of myocytes in the immunoreaction with the anti-alpha-actin antibody of smooth muscle (α SMA) shows that the tumor belongs to the myometrial structure. Tumor-transformed cells were genetically altered and mutated in the p53 tumor suppressor gene, thus escaping standard tissue control, aspects identified by immunolabeling with the anti-Ki67 antibody, which revealed cells in division. Tumor growth and development were supported by protein activation of cyclin-dependent kinase (CDK) and the presence of immunolabeled hematopoietic stem cells using the anti-cluster antibody of differentiation 117 (c-kit). The use of an anti-Desmin antibody in combination with anti- α SMA demonstrates the involvement of smooth muscle cells in tumor growth and development. The following microscopic features established the basis for the diagnosis of MLMS: irregular myometrial invasion the myxoid appearance that highlights rare cells dividing on sea fields. The following microscopic features laid the foundations for MLMS diagnosis: irregular myometrial invasion, rare mitosis on high power field (HPF: an average of 2.6 cells/ \times 400 (\pm 0.96 cells/ \times 400) due to the presence of abundant myxoid matrix, rich in proteoglycans and glycosaminoglycans, especially hyaluronic acid, which offers a hypocellular appearance, but also through cell pleiomorphism.

Keywords: cell pleiomorphism, myxoid component, hypocellular appearance, rare mitosis

Perspective on the future of sentinel node in cervical cancer

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Introduction. With nearly 570,000 new cases per year and 310,000 deaths per year, cervical cancer is the second most frequent cancer in women and the third leading cause of cancer-related deaths in females. Good oncologic outcomes after surgery have been reported for early-stage cervical cancer with a disease-free survival of 90.6% at three years and 96.5% at 4.5 years, respectively, and an overall survival of 96% and 99%, respectively. For this subset of patients, lymph node status is a major prognostic factor since five-year disease-free survival falls from 88% to 57% in case of lymph node metastasis. **Materials and method.** We present a systematic review in which we included articles regarding the sentinel lymph node mapping and the future perspective of this procedure. **Results.** According to the international guidelines for the treatment of early-stage cervical cancer, the gold standard treatment includes pelvic-lymph-node dissection (PLND) in order to adapt the treatment to a potential lymphatic metastasis. A lymph-node metastasis is present in 27% of early cervical cancers, leading to a high rate of overtreatment with unnecessary pelvic lymphadenectomy in three out of four patients. Moreover, this lymphatic surgery is

known to induce significant morbidity and can lead to a decreased quality of life. The sentinel node detection rate is high in women with early-stage cervical cancer (96.3%, with 82% bilateral detection). Sentinel node mapping has a sensitivity of 96.3% and a negative predictive value of 98.7% in women with tumor size above 20 mm. This high sensitivity, with a low risk of complications after it, concludes that sentinel lymph node biopsy is a very promising technique but demands full adherence to the sentinel lymph node algorithm and experience with this method. **Conclusions.** The current trend in cervical cancer management is focused on less aggressive strategy without jeopardizing oncologic outcomes. The sentinel lymph node biopsy is a sturdy alternative to systematic full pelvic lymphadenectomy for lymph node staging in early-stage cervical cancer. According to the abundant literature, there is a trend in the acceptance of sentinel lymph node biopsy in current clinical practice and, in time, maybe will become the gold standard of node staging in early-stage cervical cancer.

Keywords: sentinel lymph node, cervical cancer, future perspective, pelvic lymphadenectomy

Postpartum depression: an overview

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Pregnancy and childbirth are some of the most important moments in a woman's life. These events impact women from a family, social and medical point of view. Pregnancy involves physical, physiological and psychological changes, experienced differently by each woman. In some cases, the hormonal storm following pregnancy and immediate postpartum period can have serious repercussions in a women's mood. They may go through a wide range of moods and emotions, from excitement and happiness to fear, anxiety and overwhelming. Most of women experience "baby blues" or "postpartum blues", described as a common and transient anxiety accompanied by insomnia and mood changes, that recovers by itself in two weeks. Unfortunately, there is a percentage of 10-20% of women who will undergo a more severe dysphoric syndrome called "postpartum depression", which is a serious psychiatric disorder. Postpartum depression requires urgent counseling and treatment and, if ignored, it can become a life-threatening affliction not only for the mother, but also for the child. Wide varia-

tions of steroids and peptide hormones during pregnancy and immediate postpartum can disrupt not only the axis between hypothalamus pituitary and adrenal gland, but the hypothalamic-pituitary-gonadal axis as well. The aim of this presentation is to provide a deeper vision over this borderline disease, shared between obstetricians and psychiatrists, and to highlight the importance of early recognition and diagnosis. A standardized, widespread screening method is the Edinburgh scale. The formula consists in a ten-item questionnaire which generates a risk score associated with the patient's mental state. Postpartum depression is a sensitive and controversial disorder, shared between specialties and deserves more attention from obstetricians, as well as a better collaboration between medical practitioners. Also, it is important to initiate precocious optimum treatment and psychotherapy and also to evaluate the psychological impact of COVID-19 pandemic on the pregnant women.

Keywords: postpartum depression, baby blues, postpartum blues, Edinburgh scale

Is it time for fetal screening of microdeletions?

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Introduction. Ten years after reporting noninvasive antenatal tests which involved 22q microdeletion evaluation, a number of manufacturers are marketing screening tests with risk assessment of several microdeletions. During this time, some authors have tried to bring data related to the clinical value of maternal blood screening, for fetal microdeletions. The aim of this paper is to evaluate the positive predictive value (PPV) of microdeletions screening. **Materials and method.** We searched Medline and Cochrane databases for papers published after 2017 (review or prospective studies) with a casuistry of over 200 positive screen cases for

at least five microdeletions was conducted. **Results.** A review and two prospective studies were found. The review study showed a PPV of screening for microdeletions of about 40%, ranging from 29% to 91%, for an overall false positive result (FPR) < 0.1%. Screening PPV was 9.2% and 50%, respectively, in the other two studies. Due to the different technologies used, the detected microdeletions are not superposable in all three published works. **Conclusions.** The tests for microdeletions still have limited clinical applicability. The widespread use of them will provide new data.

Keywords: fetal screening, microdeletions

SARS-CoV-2 infection (COVID-19) – a fertility issue in women

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The novel coronavirus disease (COVID-19) outbreak in 2019 and its rapidly turning into a global pandemic became a worrisome issue in the health sector. Female fertility concerns emerged after abnormal findings in menstrual cycle regarding its duration, frequency, regularity and volume (heavier bleeding and clotting), accentuated dysmenorrhea and worsened premenstrual syndrome in women post-SARS-CoV-2 infection were noticed. There is enough evidence to claim that renin-angiotensin-aldosterone system (RAS) is involved in female reproductive functions, such as folliculogenesis, steroidogenesis, oocyte maturation and ovulation. SARS-CoV-2 invades target host cells *via* a cellular receptor, angiotensin-converting enzyme 2 (ACE2), and a cellular protease, the transmembrane protease serine (TMPRSS). Therefore, as these findings suggest, organs with an in-

creased expression of ACE2 or TMPRSS are more prone to infection. ACE2 is also expressed in the endometrium, especially in epithelial cells, rather than stromal cells, and is more abundant in the secretory phase than proliferative phase. SARS-CoV-2 might affect female fertility through damage in endometrial epithelial cells, thus affecting early embryo implantation. Another proposed pathophysiological mechanism of COVID-19 is represented by endothelial damage with subsequent inflammation and prothrombotic milieu. Current evidence of the impact of COVID-19 mRNA vaccination on human fertility is currently limited. Although, to date, studies have not shown a measurable detrimental effect in follicular steroidogenesis and oocyte quality in unvaccinated women when compared to vaccinated ones.

Keywords: COVID-19, female, infertility, ACE2

Approach to evaluating pregnant patients with viral hepatitis B – “Prof. Dr. Panait Sirbu” Clinical Hospital of Obstetrics and Gynecology experience

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Chronic hepatitis B virus (HBV) infection affects about 350 million individuals worldwide, with half of them acquiring the infection either perinatally or in the early childhood, especially in endemic areas. The management of HBV during pregnancy remains a challenge and involves various aspects of maternal and fetal care. The aim of this review is to present the current knowledge regarding pregnancy and HBV infection, as well as recent efforts to reduce the rate of mother-to-child transmission (MTCT). Although in most cases, acute or chronic HBV infection in pregnancy is similar to that in the general adult population, testing for HVB is recommended in every pregnancy, regardless of the previous testing or vaccination, due to the higher incidence of low

birth weight, prematurity as well as gestational diabetes mellitus and antepartum hemorrhage reported in pregnancies with chronic maternal HBV infection. The identification of HVB-positive pregnant women remains the most effective way to prevent HVB transmission to newborns, combined with passive and active prophylaxis at birth. Breastfeeding is not contraindicated for HVB patients, but it is not recommended for women to take antiviral drugs due to the potential teratogenic effect on the fetus. Finally, there remains no clear evidence that elective caesarean section reduces the risk of mother-to-child transmission compared to vaginal delivery.

Keywords: hepatitis B, pregnancy, MTCT, immunoprophylaxis

Feasibility of fetal portal venous system ultrasound assessment at the first-trimester anomaly scan

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Objective. The main objective of our study was to demonstrate the potential of the first-trimester anomaly scan to identify components of the portal venous system (PVS), and to describe the potential of microscopic evaluation of the PVS in the FT. **Materials and method.** We evaluate the appearance of PVS in 200 scan examinations performed in fetuses between 12 and 13.6 gestational weeks (GW). The scans were performed in half of the cases by two operators who had extensive experience in obstetric ultrasound (Group I) and in the other half of the cases by two sonographers with less experience (Group two). The examinations were performed *via* transabdominal and, in selected cases, *via* transvaginal approaches. We performed macroscopic and microscopic examination of the liver in one case of interrupted pregnancy. **Results.** Group I successfully assessed all PVS features by transabdominal approach in 27% of the cases. The assessment rate was lower for Group II (14%). The transvaginal approach or reschedule showed a better rate of detection for both groups (88% in Group I and 72% in Group

II). Unfavorable fetal position, BMI greater than 24, abdominal scar, retroverted uterus, fibroids and combinations of the above were reasons for the reschedule or using the transvaginal approach. Following reevaluations, the rate of detection of the L-shaped UV confluence increased from 91% to 98% in Group I, and from 79% to 95% in Group II, on transabdominal approach. The visualization of a normal L-shaped UV confluence, that excludes major PVS abnormalities, is achievable in approximately 80% of cases, regardless the examiners experience. The microscopic examination confirmed the normal aspect of portal venous system. **Conclusions.** Early fetal PVS assessment is feasible. The experience of the sonographer, uterus anomalies or the Body Mass Index (BMI) may be factors that affect the rate of detection. Combining the abdominal and vaginal approach or rescanning, a higher rate can be achieved. The first-trimester pathology can be performed only microscopically.

Keywords: portal venous system, fetal abnormalities, ultrasound, autopsy, immunohistochemical

Methods of early diagnosis of abnormal placentation

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Early diagnosis of abnormal placentation significantly influences the management of the antepartum period, as well as the birth protocol. Abnormal placentas – such as *placenta accreta* – represent rare pathologies, being present in 0.04-0.9% of all pregnancies and *placenta praevia* in 2% to 60% of pregnancies. Moreover, 75% of *placenta percreta* cases are associated with *placenta praevia*. A history of multiple caesarean sections is the best-known risk factor, but it has been shown that other features – such as Asherman's syndrome, advanced maternal age or curettage – are associated with placental defects. Massive bleeding, which may require emergency hysterectomy or

intensive care for both mother and newborn, are complications that can be avoided or at least anticipated in case of early diagnosis of placental defects. These are cases that mandate utmost caution and thorough investigations in favor of prolonging the pregnancy. In this respect, ultrasound, magnetic resonance imaging (MRI), cystoscopy and blood sampling detecting circulating trophoblasts should be in favor of the obstetrician with clear criteria, following which a diagnosis of vicious placentation can be made as early as possible in pregnancy.

Keywords: *placenta percreta, placenta accreta, placenta praevia, early diagnosis*

Is early pregnancy the right moment to screen for adnexal pathology?

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Ultrasonography is the standard tool for assessing an early pregnancy status, as a positive pregnancy test may correlate with a nonviable pregnancy or a life-threatening condition. The basic reasons to carry out the first-trimester ultrasound are establishing pregnancy location, viability and accurate gestational age. An intrauterine (IU) gestational sac is suggestive of a normal pregnancy. Complications resulting from pregnancy are frequently-encountered complaints in emergency departments and prenatal clinics. Sometimes, identifying an IU pregnancy can divert attention from the possibility of a concurrent gynecologic affliction. Thus, it is easy to miss a heterotopic pregnancy during a routine ultrasound since the physician may only check the developing fetus in the uterus and not contemplate looking beyond that. A suspicion of ectopic or heterotopic pregnancy is easily ruled out, as an ultrasound evaluation of an early gestation should include the adnexa. Nowadays, malignancies complicate an estimated 1 in 1000 pregnan-

cies. The birth rate for women older than 30 years of age has firmly increased over the past decades. Associated with the fact that many malignancies' incidence begins to grow during the fourth decade of life, the rare and demanding case of cancer in pregnancy is becoming relatively common. Decisions regarding pregnancy diagnosis and treatment of concurring afflictions must carefully weigh pregnancy physiology, dynamic anatomy and fetal considerations. Although the first-trimester screening might not be the right moment to diagnose adnexal disorders, sometimes the obstetrician faces the cruel truth. It could be the only time to recognize and correctly manage a complicated health issue. In short, doctors must be alert to the fact that confirming an IU pregnancy clinically or by ultrasound does not exclude the coexistence of an extrinsic pathology that could permanently impact the woman's future.

Keywords: early pregnancy, ultrasound, adnexal afflictions, diagnosis

Unusual bleeding source related to post-pregnancy period

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Uterine arteriovenous malformation is a rare cause of abnormal uterine bleeding. Arteriovenous malformations (AVMs) are vascular anomalies characterized by a tangle of aberrant blood vessels generating a nidus that allows for inappropriate, rapid communication between arteries and veins. Uterine AVMs are uncommon, with only about a hundred cases reported. Menorrhagia, postpartum bleeding and spontaneous miscarriages are common signs of uterine AVMs. Uterine AVMs are divided into two categories. Uterine AVMs are congenital developmental disorders known as primary or idiopathic uterine AVMs. Reactive angiogenesis, pregnancy-related alterations, uterine operations or trophoblastic invasion are all causes of secondary or acquired uterine AVMs. Uterine instrumentation, such as dilatation and curettage or surgery, is thought to be one of the most common causes of acquired uterine AVMs because it produces inflammation and reactive angiogenesis. The majority of AVMs are linked to cancer (endometrial adenocarcinoma, gestational trophoblastic disease) or maternal diethyl-

stilbestrol exposure. Uterine AVM is often diagnosed during angiography as part of a uterine artery embolization procedure for bleeding management. Ultrasound can also be used to rule out other conditions that can produce similar symptoms, such as uterine fibroids, cancer or endometrial hyperplasia. Due to its capacity to identify the nidus of blood vessels and analyze the size and flow of the arteriovenous shunt associated with the AVM, digital subtraction angiography of the uterine arteries remains the gold standard for diagnosis. CT angiography or MR angiography may be performed to investigate the complete area of the AVM for pre-procedure planning in the case of bigger AVMs. Prior to the 1990s, hysterectomy was the most common treatment for uterine artery AVMs. The uterine AVM was detected intraoperatively or with postoperative pathology in most patients who presented with bleeding. The gold standard for treatment nowadays is uterine artery embolization.

Keywords: uterine arteriovenous malformation, vaginal bleeding

Can bovine aortic arch be diagnosed in prenatal period?

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Introduction. Fetal aortic arch development starts around the 41st day of gestation from the primitive III and IV aortic arches and reaches its final circulation pattern at about 57 gestation days. Anatomical variants of the aortic arch have been described, such as bovine aortic (BAA).

Materials and methods. We performed database research with the key terms: "bovine arch", "bovine aortic", and "aortic arch anomalies", in PubMed, Embase, Scopus, ScienceDirect, Web of Science and Cochrane. **Results.** The research revealed 463 results. The anatomic aortic has an incidence that can range in adults from 4.8% in Caucasians to 27% in the African population. Diagnosing BAA during a routine anatomic scan of the fetus is feasible and can be carried out by including the sagittal section

of the thorax with the typical image of the branching aortic arch in anomaly scans. Studies do not indicate an increased frequency of other cardiac anomalies, whenever other malformations or syndromes are detected (i.e., coarctation, Turner syndrome, right aortic arch, del 22q11 etc.) that require postnatal surgery. The knowledge of the aortic arch type is beneficial for avoiding incidents and difficulties in surgery. **Conclusions.** BAA represents a marker for different thoracic and aortic diseases in children and adults. The early knowledge of the condition may prevent accidents with significant changes to the patient's lifestyle including surgical approach.

Keywords: bovine arch, bovine aortic, aortic arch anomalies

Pregnancy after cancer treatment

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Cancer diagnosis and treatment are constantly improving regarding early diagnosis, as well as advanced management and survival rate. Chemotherapy and irradiation are often included in the cancer treatment protocols and are related to both type and stage of cancer. Even though the actual protocols are towards protecting the healthy tissue, the effect of chemotherapy may have a negative impact on genital tract, affecting the anatomy, the physiology and endocrine function. Future fertility is among the most important long-time concerns of all cancer treatment protocols. The preservation of gonadal functions depends on the type of cancer and treatment. The gold standard in fertility preservation is embryos cryopreservation. When not available, harvesting and cryopreservation of oocytes, ovarian tissue

cryopreservation or transposition of the ovary before cancer treatment could be performed. It is important for the patients to be properly informed and for the cancer medical team to have options regarding fertility preservation methods and medical facilities. Following cancer protocol, pregnancy can be an option when medical and general health can allow it or when considered cancer free, depending on both medical condition and age of the patient. If no fertility preservation was performed and ovarian reserve is low or absent due to age and/or malignancy treatment, patients can benefit from egg donation. A national program for cancer fertility preservation should be a priority, as well as a program for egg donation and IVF for cancer patients.

Keywords: pregnancy, chemotherapy, cancer, fertility

Intrauterine fetal demise after SARS-CoV-2 infection – case presentation

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The SARS-CoV-2 pandemic exposed the most vulnerable populations, including pregnant women and fetuses who present a particular concern in this presentation, being a medically challenging situation. SARS-CoV-2 infection in pregnant women can cause placental damage and/or transplacental viral transmission, sometimes determining intrauterine fetal death as an unpredictable event. Since neither a widely approved treatment, nor a specific medical conduct for pregnant women with this viral strain have been authorized, close monitoring and symptomatic therapy are the only recognized methods deemed to be efficient up to a certain degree in the evolution of the pregnancy. Even though a vast majority of pregnant women do not suffer from major complications, the fetus can be affected directly either by

the vertical transmission of the virus, which cannot be excluded, or indirectly by alterations to the fetal circulation. Pregnant women do not seem more susceptible to catching the virus compared to the general population; however, once the woman has contracted the virus, she can, in theory, suffer from more severe symptoms, since pregnancy as a physiological state determines changes in the immune system and in its response to viral infections. The cause of the possible intrauterine death in pregnant women with active infection has yet to be determined, nevertheless the histological changes caused by the virus are responsible for intrauterine deaths, even at higher gestational ages.

Keywords: SARS-CoV-2 infection, intrauterine death, placental damage

Current challenges of management in cervical cancer and pregnancy: a case report and literature review

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Cervical cancer is one of most diagnosed cancers in pregnancy. Although the prognosis is similar to the one in non-pregnant women, the management of such cases still poses a series of challenges for the physician, including having to consider the outcomes of both mother and baby and relying on literature limited to small numbers of cases. When cervical cancer is diagnosed in the second half of the pregnancy, the management involves the administration of neoadjuvant chemotherapy up to three weeks before delivery, which is ideally recommended to be delayed until >37 weeks of gestation. We report the case of a 25-year-old woman, gravid 3 para 1, diagnosed at 24 weeks of gestation, with FIGO stage IIA

squamous cervical cancer. The termination of pregnancy was not an option, thus platinum-based NACT was initiated, with good tolerance. After five cycles of NACT, a caesarean section was required due to uterine contractions, vaginal bleeding and shortening of the cervix. The outcome was favorable for both mother and baby; the patient is currently undergoing radiation therapy and the baby was discharged in good health after 14 days. We aim to present and discuss the current trends in treating this complex pathology in order to contribute to the current knowledge on the subject and help improve the management of such cases.

Keywords: cervical cancer, pregnancy, preterm birth

Obstetrical challenges during pandemic period

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Introduction. COVID-19 pandemic is caused by SARS-CoV-2 and it has an enormous impact on humans' life. The reports about its implications during pregnancy are increasing. The purpose of our study was to reveal the obstetrical challenges during pandemic period. **Materials and method.** We reviewed main medical databases such as PubMed, Medline and Web of Science, searching publications about SARS-CoV-2 in pregnancy and we focused on reports about the complications of pregnancy and SARS-CoV-2 infection. **Results.** Our research revealed more than 3000 publications about SARS-CoV-2 and pregnancy. The majority of the studies highlighted the maternal symptoms, the biological findings, the termination of pregnancy, the fetal outcome and placental pathology. The main characteristic was that newborns with positive

mothers were negative at the SARS-CoV-2 PCR test. The incidence of caesarean section increased mostly based on premature induced births. The main indication for caesarean section correlated with SARS-CoV-2 symptoms was maternal acute respiratory distress associated. There were reported cases of COVID-19 pregnancy associated thrombocytopenia or HELLP syndrome. Some studies described significant placental changes in COVID-19 pregnancies. Overall, the usual obstetrical complications with no correlations to SARS-CoV-2 were mentioned as well. **Conclusions.** COVID-19 in pregnancy represents a challenge for the obstetrician because the physician has to solve both the surgical and medical complications of pregnancy.

Keywords: SARS-CoV-2, pregnancy, COVID-19, complications

Pustular psoriasis of pregnancy: from diagnosis to treatment

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Physiologic and cutaneous changes happen during pregnancy due to alterations in the metabolic, endocrine and immunological profiles. Pustular psoriasis of pregnancy, formerly known as *impetigo herpetiformis* (IH), is a severe, life-threatening, rare variant of nonpruritic generalized pustular psoriasis associated with increased maternal and fetal morbidity and mortality. IH is an acute dermatosis during pregnancy, mostly arising in the third trimester. IH disappears after the postpartum period. Therefore, IH is an emergency for diagnosis and treatment. The clinical diagnosis is based on plaques and pustular lesions characteristically disposed symmetrically in the flexural and intertriginous areas on the trunk and members; these lesions are sterile and show centrifugal extension, without scar formation. Sometimes, these lesions may occur at the level of the

esophageal mucosa. IH is associated with fever, tetany, leukocytosis and neutrophilia, elevated inflammatory markers, decreased serum calcium levels and hypoproteinemia which may determine maternal decompensation. The acute diagnosis is necessary due to systemic complications and maternal decompensation. Physical examination and skin biopsy are used for the diagnosis. Reported fetal complications are miscarriage, intrauterine growth restriction due to placental insufficiency and stillbirth. Corticosteroids, cyclosporine and biological treatments are discussed for medical treatment. In conclusion, pustular psoriasis of pregnancy may be early recognized and rapidly treated in order to improve maternal and fetal outcomes.

Keywords: pregnancy, generalized pustular psoriasis, impetigo herpetiformis

Minimally invasive surgery in early-stage cervical cancer

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Introduction. The standard treatment for early-stage cervical cancer is represented by radical hysterectomy with pelvic lymphadenectomy. Laparotomy has been the main choice of approach for a long period of time and, although effective, it is highly invasive and associated with increased morbidity, longer hospital stay and postoperative complications. Since the early 1990's, radical hysterectomy with pelvic lymphadenectomy has been successfully performed laparoscopically. The use of minimally invasive techniques has led to better postoperative outcomes, lower intraoperative blood loss and shorter hospital stay. Although there is recent debate concerning the significant inferiority of the minimally invasive approach followed by the LACC (laparoscopic approach to cervical cancer) study in 2018, there are recent studies that question its findings and that sustain that there is still an important place for minimally invasive surgery in early cervical cancer. **Materials and method.** We present a systematic review in which we included articles regarding minimally invasive surgery in cervical cancer and the future perspective of this approach. **Results.** There are several meta-analyses that compared minimally

invasive surgery with open surgery for early cervical cancer. Regarding intraoperative blood loss, hospital stay and postoperative complications, there are four meta-analyses which conclude that laparoscopic approach is superior to the abdominal one. The careful selection of patients can lead to excellent oncologic outcomes. The results from the studies incriminating minimally invasive surgery showed no significant differences in disease-free survival rate and overall survival rate for low-risk cervical cancer (tumors below 2 cm, no lymphovascular space invasion, depth of invasion below 10 mm and negative pelvic lymph nodes). So, at least for these patients, minimally invasive surgery is naturally a better solution. Fertility sparing surgery includes mainly patients with low-risk cervical cancer, a category for which minimally invasive surgery should be primarily used for. **Conclusions.** While there are still aspects that undoubtedly need to be improved concerning a standardized technique, minimally invasive surgery still has an important role in the treatment of early-stage cervical cancer.

Keywords: minimally invasive surgery, cervical cancer, laparoscopic surgery

Vaginal microbiota and HPV infection

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The female genital tract is an important bacterial habitat and the vaginal microbiota (VM) plays a major role in maintaining the health of the vagina. Recent studies have shown that the alteration of the vaginal microbiome is associated with persistent HPV infection and with the appearance of intraepithelial cervical lesions (CIN). Although HPV infection is common, few women will develop persistent infections. There is evidence to suggest that VM diversity combined with decreased lactobacilli may be involved in the acquisition and persistence of HPV and the development of precancerous lesions. *Lactobacilli* produce protective peptides and metabolites capable of inhibiting the growth of pathogenic bacteria. However, it is possible that some particular species of VM may be involved in the initiation and progression of cervical pathology. This is the trigger mechanism for the immune response as well as in the degradation of the vaginal mucosa, which ultimately leads to susceptibility to infection. Chronic exposure

to inflammation is toxic to cells, causing DNA damage and potentially carcinogenic changes. Important in this equation are the metabolic products of the microbiome that can cause immune dysfunction and cellular disorders. The vaginal metabolism of HPV-positive women contains high amounts of biogenic amines, glutathione and lipid metabolites. Current studies have shown only a possible association between persistent HPV infection, the occurrence of CIN and a certain composition of VM, without being able to demonstrate a causal relationship. Future research will need to focus on the study of the metabolome in order to develop antioxidant therapies in HPV infection. Another direction of research would be the administration of probiotics for the purpose of modeling vaginal microbiota, or the use of antibiotics and bacteriophages as methods of improving the prognosis after CIN treatment.

Keywords: vaginal microbiota, HPV infection, cervical intraepithelial neoplasms

Anomalies of the caval veins in the fetus: structural abnormality or anatomic variant

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Introduction. Anomalies of the main venous drainage system to the fetal heart are the result of early errors in the normal involution process of the embryonic vascular system. The most common consequences are the heterotaxy syndromes, the persistence of left superior *vena cava* and interruption of the inferior *vena cava*. The different forms of isomerism have been extensively described, as structural defects and outcomes, but there is still debate whether the anomalies of the two caval veins have a hemodynamic impact. **Aim.** Our purpose is to search the current literature data to provide a review material including practical points for obstetrical sonographers and maternal-fetal medicine practitioners when confronted with such findings. **Materials and method.** We have focused on the persistence of left superior *vena cava* and interrupted inferior *vena cava*, especially in cases that appear isolated and are the most difficult to counsel. **Results.** Most of the published results rely on a limited number of cases and data derived from the embryological development of the fetus. However, there has

been an increase in awareness and antenatal detection of such conditions in the last few years. Adequate follow-up of these patients made it possible to improve the medical knowledge and adjust counseling. **Discussion.** The fetal venous system has been investigated intensively in the past few years. The application of high-resolution and color Doppler ultrasonography has enabled the prenatal detection of congenital anomalies of the fetal veins. In addition, a targeted fetal examination of the cardiovascular system is being incorporated into the routine scan with increasing regularity. **Conclusions.** One of the key points when distinguishing between pathology and a normal variant is the general functional impact. In order to ensure a good outcome, which is the general rule in these cases, and exclude the possible associated anomalies, extensive tests need to be carried out, both genetic and imaging (sonographic/magnetic resonance where necessary).

Keywords: persistent left superior *vena cava*, interrupted inferior *vena cava*, heterotaxy syndromes

Triple therapy in the management of newborns with respiratory distress syndrome

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Recently, research has focused on finding ways to prevent or reduce the incidence and severity of newborn respiratory distress syndrome. In this regard, there has been a discussion about the use of both antenatal and immediately postnatal therapies with a synergistic effect in the prevention and treatment of primary surfactant deficiency in premature infants. Triple therapy (antenatal corticosteroids, early CPAP, rescue surfactant) has been shown to reduce the need for mechanical ventilation and improve the long-term prognosis, especially by

reducing the risk of bronchopulmonary dysplasia. The use of pulmonary ultrasound helps in the differential diagnosis between primary surfactant deficiency and neonatal acute respiratory distress syndrome and guides the early management of these patients. Clinical trials are currently underway to identify strategies in order to increase the effectiveness of exogenous surfactant and reduce its catabolism in preterm babies.

Keywords: neonatal respiratory distress syndrome, surfactant, nasal CPAP

Convulsive syndrome in the newborn within NICU – diagnostic and therapeutic actualities

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Introduction. The recognition of seizures in the neonatal period is extremely important, allowing the identification and the establishment of an emergency therapy based on limiting the harmful effect on the brain of the newborn. The clinical diagnosis of seizures in newborns is challenging, due to the varied clinical appearance, sometimes abnormal nonepileptic movements being confused with seizures, thus leading to inadequate treatment and unjustified worrying prognosis. **Objectives.** We propose a practical clinical-imaging approach, at the patient's bedside, for the promptness of the diagnosis, on the one hand, and for the limitation of the mobilization of the critical patient in the neonatal intensive care unit (NICU), on the other hand. **Materials and method.** The present study is based on a comprehensive analysis of several works in the field, in order to address the convulsive syndrome in the critical newborn, in terms of diagnosis and treatment. The experience of the Neonatology Clinic of the "Louis Țurcanu" Emergency Clinical Hospital for Children, Timișoara, also contributed. **Results.** It is mandatory to differentiate neonatal seizures from nonconvulsive trembling type (jitteriness). These may

be associated with hypoglycemia, hypocalcemia, neonatal encephalopathy or hyperexcitability of the diabetic newborn. Although the newborn may not have clinical seizures, the onset of paroxysmal movements justifies further evaluation, as they may be associated with significant central nervous system disorders and subsequent neurological deficits. The seizures without clinical manifestation, only electrographic, are common in patients with critical illness and have been reported in two-thirds of critically ill children with seizures. In neonatal intensive care units, the presence of specific symptoms or the suspicion or the risk of manifesting seizures make EEG monitoring – either conventional (cEEG), or with integrated amplitude (aEEG) – particularly important. In the cases where EEG monitoring is not available, one may consider the diagnostic algorithm created by Brighton Collaboration Neonatal. **Conclusions.** Neonatal seizures remain an emergency in medical practice, especially within NICU. The first-line treatment for stopping seizures and stabilization of vital functions is at the top of the department's protocols and procedures.

Keywords: seizures, critical newborn, monitoring

Management of hemolytic jaundice due to severe enzymatic deficiency of glucose-6-phosphate dehydrogenase

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Glucose-6-phosphate dehydrogenase (G6PD) deficiency is an enzyme dysfunction with X-linked genetic transmission, with a high prevalence among the global population, which can be diagnosed from the neonatal period. Gene expression and G6PD activity determine the ability of erythrocytes to fight oxidative stress and, thus, by decreasing the activity of this enzyme, erythrocyte fragility and hemolysis are established. Although in most cases with such enzymopathy, the clinical picture remains asymptomatic in the long term, some patients may develop an acute hemolytic crisis within the first month of life with severe anemia and severe neonatal jaundice. In this situation, the early recognition of the signs of acute hemolysis is necessary, and the therapeutic conduct must be focused on the prevention of severe complications of neonatal hyperbilirubinemia (nuclear jaundice and cerebral palsy). This presentation highlights the case of a pair of twins, born premature by caesarean section at 35 weeks of

gestational age, who presented neonatal hyperbilirubinemia that required intensive and prolonged phototherapy. At 7 days of age, the twins are discharged with much diminished faciotroncular jaundice under phototherapy, but are readmitted to the clinic only two days after discharge after a significant increase of neonatal jaundice due to a very high indirect hyperbilirubinemia. The evolution under treatment (phototherapy and albumin 5% administration) was favorable, with clinical and paraclinical significant jaundice decrease. Correlating the clinical evolution with elevated neonatal bilirubin values and the therapeutic measures instituted, the suspicion was raised and subsequently confirmed, for both patients, with the diagnosis of hemolytic jaundice by severe enzymatic deficiency of G6PD – due to hemizygous mutation of the G6PD gene – variant c.563C>T (p. Ser188Phe).

Keywords: glucose-6-phosphate dehydrogenase, hemolytic jaundice, enzymatic deficiency

Pulmonary hemorrhage – a diagnostic and therapeutic challenge

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Introduction. Pulmonary hemorrhage is a severe complication, an end-point of different pathological conditions, difficult to foresee, prevent and manage. The incidence of pulmonary hemorrhage is around 1-12% overall at the neonatal age, with a significant increase up to 50% in VLBW babies. The mortality through pulmonary hemorrhage in NICU is around 50%. There are different mechanisms for pulmonary hemorrhage in newborns, according to gestational age: in term babies, the main cause is coagulopathy within sepsis, while in preemies, hemodynamically significant PDA seems to be responsible for most of the cases. The management of pulmonary hemorrhage is difficult; thus, prevention should be a priority for the neonatologist. **Materials and method.** We have analyzed three cases from our clinic which developed unexpected and severe pulmonary hemorrhage at a different postnatal age, with poor outcome, trying to review main causes and all possible interventions – preventive and rescue. Special attention should be given to PDA management, as it is a major

problem for VLBW and ELBW babies. We describe a basic and simple echocardiographic exam that can be done by the neonatologist. **Results.** All our cases were premature babies – ELBW – with PDA that was not closed pharmacologically, as it was not considered hemodynamically significant, from the clinical point of view. Two of the cases were not given surfactant, and coagulation tests were not available. We managed to identify the associated risk factors such as intrauterine growth restriction, infection and maternal drugs. **Conclusions.** Even though there are no clinical signs for PDA significance, the neonatologists should further investigate the hemodynamic status of the baby using a few steps ultrasound examination and, according to certain criteria, the pharmacological interventions should not be postponed. Of paramount importance is to develop and implement national guidelines and protocols that could improve the clinical course and the babies' outcome.

Keywords: pulmonary hemorrhage, neonatal pulmonary edema, PDA, hemorrhagic events in newborns

Single fetal demise in monochorionic twin pregnancy and intrauterine growth restriction of the surviving twin – case report and systematic review

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Monochorionic twin pregnancy is associated with multiple complications. First-trimester single fetal demise is not an uncommon event, and it doesn't seem to impair the further development of the survival one. This complication is described in the literature as the "vanishing twin syndrome". In the second or third trimester of pregnancy, this complication has been associated with maternal and fetal morbidity and mortality for the surviving co-twin. Fetal demise after mid-gestation was associated with preterm labor, intrauterine growth restriction (IUGR), preeclampsia or death of the surviving twin. We present the case of a 24-year-old pregnant woman, G1, P1, who had a 30-week monochorionic diamniotic twin

pregnancy. The patient addressed our department for diminished fetal movements. The ultrasound revealed a second dead fetus and IUGR for the surviving twin. Two weeks later, an emergency caesarean section was required for the alive fetus. We proposed a systematic review of the reported cases of monochorionic diamniotic twin pregnancy complicated with fetal demise in the third trimester and IUGR of the surviving fetus. Based on this, we also present the risk of complication assessment, the timing of delivery, the mode of delivery and the outcome/long-time follow-up of the surviving fetuses.

Keywords: monochorionic pregnancy, intrauterine growth restriction, single fetal demise

The role of electroencephalographic monitoring in the newborn with neonatal seizures

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Neonatal seizures (NS) are a major challenge for clinicians due to inconspicuous clinical presentation, variable electroclinical correlation and to poor response to antiseizure drugs. They occur mainly in the first week of life and are an important segment in neonatal pathology, especially since they are different from those from other ages, and the subsequent neurological disability may be significant. NS are often subclinical and difficult to diagnose, and the initiation of antiepileptic drugs may be delayed to the detriment of neurological status of the newborn. The aim of the study is the clinical and electroencephalographic assessment of newborns with neonatal seizures in NICU, discovering the risk factors, the etiology, the antiseizure drugs response and the long-term neurological outcome. In order to evaluate NS, electroencephalographic (EEG) confirmation is absolutely mandatory to avoid misdiagnosis. Therefore, in neonatal intensive care departments (NICU), amplitude-integrated EEG (aEEG) is very helpful. Bedside monitoring, aEEG is using a

small number of electrodes that will be maintained for at least 24 hours, being a simple and noninvasive method of assessing electric cerebral activity in neurological risk newborns. Hypoxic-ischemic encephalopathy (HIE), following perinatal asphyxia, remains an important problem, in both full-term and near-term newborns, and an important cause of NS. Most newborns with perinatal asphyxia manifested clonic seizures. NS following HIE are known for their resistance to first-line antiepileptic drugs, such as phenobarbital. In our study, 61.1% of newborns with HIE had a good response to phenobarbital therapy, while 33.3% required the combination of several antiepileptic drugs. Neonatal seizures are predictive factors for cases that will progress to infantile cerebral palsy, epilepsy or global developmental delay. The early diagnosis and the proper treatment of neonatal seizures can reduce the long-term complications and the neurological sequelae.

Keywords: neonatal seizures, aEEG, hypoxic-ischemic encephalopathy, antiepileptic drugs

Neonatal arrhythmias – case presentation

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Neonates can have different types of arrhythmias that range from benign to life threatening. The incidence of neonatal arrhythmia is known to be up to 5% in all neonates during the first ten days of life. Arrhythmias may occur either in neonates with a normal heart, or in those with structural heart disease. The clinical manifestation is variable due to both duration and rate of the arrhythmia. Some newborns do not present symptoms. Neonatal arrhythmias are classified as either benign or nonbenign. Benign arrhythmias – premature atrial contraction, premature ventricular contraction – usually do not have clinical significance and are well tolerated. Premature atrial contractions are conducted either normally, aberrantly or completely blocked and represent the most common type of arrhythmia in the neonatal period, while premature ventricular contractions are relatively uncom-

mon by comparison. Premature atrial contractions in neonates are usually associated with electrolyte abnormalities, hypoglycemia, hypoxia or hyperthyroidism, while the most common etiology of premature ventricular contractions in newborns is the immaturity of the cardiac tissue. We present the case of a newborn female born at term (at 40 weeks gestation), by caesarean section at the Obstetrics and Gynecology Clinic of the "Elias" University Emergency Hospital, Bucharest, who presented from the second day of life cardiac arrhythmia. The clinical examination, the pediatric cardiology consult and the paraclinical evaluation (EKG, holter EKG, cardiac ultrasound) helped us to reach the diagnosis of isolated supraventricular extrasystoles, with a tendency to systematization.

Keywords: newborn, neonatal arrhythmia, atrial extrasystoles, ventricular extrasystole

Late-onset preeclampsia in the setting of *myasthenia gravis* – case report and systematic review

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Myasthenia gravis (MG) is an acquired chronic autoimmune disease characterised by progressive weakening of voluntary muscles due to autoantibody-mediated dysfunction of neuromuscular junctions. Myasthenia's main epidemiological feature is a bimodal age distribution with two peaks of incidence: females at reproductive age and elderly males. MG is a rare clinical entity. Giving its paucity, the co-occurrence of MG and preeclampsia (PE) is an even more uncommon event, still responsible for important maternal and fetal morbidity. These patients require a very particular management, imposing both multidisciplinary approach and a very careful selection of medical therapy. A wide range of drugs, such as magnesium sulphate and first-line antihypertensive medication, including calcium channels blockers and β -blockers,

may lead to MG exacerbation. We hereby present the case of a patient with a known history of MG associating late onset PE and intrauterine growth restriction. An iterative elective caesarean section was performed, at 34 weeks of amenorrhea. The estimated fetal weight was below the 1st percentile. The newborn weighed 1670 g, the Apgar score was 7, and the child is currently alive and well. We also propose a systematic review of already reported cases of MG complicated by preeclampsia, focusing on delivery, therapeutic options and maternal and fetal outcome to highlight the clinical conflicts which may burden the management of these two disorders and to compare the results of the suggested approaching strategies.

Keywords: myasthenia gravis, pregnancy, preeclampsia, IUGR

The importance of lung ultrasound in newborns with COVID-19 pneumonia

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Introduction/objective. The SARS-CoV-2 epidemic is assessed with respiratory symptoms and lung injuries among newborns. The neonatal population should be carefully investigated, and radiation exposure should be avoided as much as possible. The aim of this review is to emphasize the importance of lung ultrasound (LUS) in SARS-CoV-2 infection. **Materials and method.** Our systematic literature review studies the benefits of LUS for newborns with COVID-19 infection, by comparing this non-irradiating method with other imaging techniques – X-ray and computed tomography. We used the terms “lung ultrasound”, “sonography”, “newborn”, “neonate” and “COVID-19” in order to determine the eligible articles. The search was performed using the following databases: PubMed, ScienceDirect and Embase. **Results.** A total of 453 studies matched our search and, after we applied inclusion and exclusion criteria and the removed the

duplicates, eight articles were finally included in our study. The primary modifications detected by lung ultrasound technique in the pulmonary fields were decreasing and disappearance of A-lines, sparse and confluent B-lines, subpleural consolidations, thickening of the pleura and others pleural irregularities. **Discussion and conclusions.** LUS is a useful imaging technique in the diagnosis of COVID-19 pneumonia in neonates, being a noninvasive, easy-to-use and reliable method for detecting lung lesions. Even though only a few studies talk about using LUS in diagnosing newborns with SARS-CoV-2 infection, their results are clear – LUS has a lot of advantages regarding this pandemic. This imaging technique could become an indispensable tool in the management of neonates with respiratory infections, being radiation-free.

Keywords: neonates, newborns, COVID-19 pneumonia, SARS-CoV-2, lung ultrasound

Challenges in the management of hypoxic ischemic encephalopathy

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Neonatal encephalopathy describes an abnormal neurological function which can be associated with other signs of pyramidal or/and extrapyramidal dysfunctions. Seeing that, out of all the infants born with this pathology, 25% remain with irreversible neurological lesions and 15-20% don't survive, it is important to associate the Apgar score below 5 at 5 and 10 minutes, the metabolic acidosis (blood drawn from the umbilical cord at birth), the neuroimages that show neurological lesions

and the multisystem organ failure. In this presentation, we discuss the management of this pathology, including supportive care and neuroprotective strategies. Hypothermia is a method that reduces the mortality rate and the key points in achieving the best neurological prognosis are the supervision of ventilation, the metabolic status and the hydroelectrolyte balance.

Keywords: encephalopathy, hypoxia, ischemia, neurological lesions, hypothermia

Review of the management of renal pathology diagnosed antenatally in the newborn

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A large part of the newborn's renal pathology is represented by congenital malformations that can be diagnosed before birth by ultrasonography, affecting one or both kidneys. The management of these newborns is still controversial, as many are asymptomatic and only a small part of them develop acute renal failure. However, the neonatologist's biggest challenge is to decide on the investigation plan and possible interventions, in the absence of a suggestive clinical presentation and before complications, in a cost-effective manner, without exposing them to the risks of unnecessary investigations. Renal abnormalities can also be associated with other non-renal mal-

formations, so it is very important to diagnose them and determine the impact on the subsequent clinical course of these newborns. In this presentation, we bring to the fore three of the cases of renal pathology that we have encountered during practice in our clinic, all being diagnosed antenatally: renal agenesis, bilateral ureterohydronephrosis and polycystic kidney disease, in order to present current suggestions, recommendations and guidelines about the management of this category of patients.

Keywords: newborn, renal pathology, renal agenesis, bilateral ureterohydronephrosis, polycystic kidney disease

Twin-twin transfusion syndrome – monochorionic twin pregnancy complication

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Twin-twin transfusion syndrome (TTTS) is a disorder present in complicated monochorionic twin pregnancies. Best estimated, the prevalence of TTTS is 9% to 15% of monochorionic diamniotic twin pregnancies and 6% of monoamniotic twin pregnancies. The main requirement for the development of this pathology is the existence of arteriovenous anastomoses which allows blood to migrate from one fetus to the other. This vascular anomaly is seen only in monochorionic twin pregnancies. TTTS is generally diagnosed on an ultrasound examination performed in the early-to-mid second trimester and the monitorization is recommended to be done at two-week intervals. The five classic stages of disease used in TTTS are based on findings from two-dimensional and Doppler ultrasound, also called the Quintero Classification

System. The differential diagnosis of this pathology can be a challenging one, due to the large number of disorders which can mirror TTTS: prelabor preterm rupture of membranes (PPROM) of one sac, intrauterine infection, congenital anomalies, selective fetal growth restriction (sFGR), and twin anemia polycythemia sequence (TAPS). When deciding the best therapeutic approach in TTTS, the stage of disorder, maternal signs and symptoms, the gestational age and the availability of requisite technical expertise must be taken into consideration. The three primary approaches when dealing with TTTS are expectant management, fetoscopic laser ablation of anastomotic vessels and amnioreduction.

Keywords: Twin-twin transfusion syndrome, anemia, polycythemia

Apnea of prematurity – diagnosis challenge in a late preterm newborn

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Apnea of prematurity (AOP) is a developmental disorder, common to premature infants, likely secondary to a "physiologic" immaturity of brainstem and peripheral chemoreceptors, that may be exacerbated by neonatal conditions. These include altered ventilatory responses to hypoxia, hypercapnia and altered sleep states. Its incidence, the degree of immaturity and the severity of clinical symptoms are inversely correlated with gestational age. AOP may start as obstructive or central, but involves elements of both and it is most commonly mixed apnea. Clinically, it is characterized by unstable respiratory rhythm and is most widely defined as abrupt cessation of breathing lasting 15-20 seconds or more, or shorter respiratory pauses (<10 seconds) if associated with significant hypoxemia (cyanosis; ≤ 80 -85%) and significant bradycardia (<80 beats/min) in infants younger than 37 weeks of gestations. It usually presents on day 2 to 7 and usually resolves by 36 to 37 weeks of post-menstrual age. If apnea is present in the first 24 hours of life or after the seventh day, other causes may be taken into consideration such as sepsis, anemia, asphyxia, temperature instability, pneumonia, and is commonly

called as pathologic apnea. The standard treatment of central and mixed apnea consists in pharmacological therapy with methylxanthine. Moreover, clinical management of obstructive subtype of AOP includes continuous positive pressure ventilation (CPAP) or nasal intermittent positive pressure ventilation (NIPPV) and prone head-elevated positioning. We present the case of a male, a late preterm newborn delivered by caesarean section at the Obstetrics and Gynecology Clinic of the "Elias" University Emergency Hospital. In the first day of life, the patient presented four episodes of apnea accompanied by a significant decrease in oxygen saturation (67-80%). Progressively, in the third day of life, the newborn presented another episode of apnea. The differential diagnosis was made with apnea resulted from a potential maternal-fetal infection, surfactant deficiency, hypoxia and anemia. The peculiarity of the case was the presence of clinical symptoms despite the prophylactic administration of caffeine and the advanced gestational age (only 7% of late preterm newborns develop apnea of prematurity).

Keywords: late preterm, apnea of prematurity, caffeine

Prenatal diagnosis and outcome of umbilical-portal-systemic venous shunts

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Aim. We present our experience in the prenatal diagnosis of umbilical-portal-systemic venous shunts (UPSVS) and their prognostic factors. **Materials and method.** A prospective study was conducted in our center between January 2017 and January 2022, regarding the detection of UPSVS during pregnancy. In all UPSVS diagnosed cases, a detailed evaluation of the fetal abdominal veins was performed. We analyzed the type of the shunt and the integrity of the portal venous system. We analyzed the incidence of the UPSVS types, their associations and outcome predictors. **Results.** Thirty-one UPSVS cases were diagnosed in 14,793 scanned fetuses, with a prevalence of 0.2%. The gestational age at diagnosis ranged from 13 to 30 weeks. UPSVS were diagnosed in all first-trimester presented cases, except one. We detected 19 type I umbilical-systemic shunts (USS; 61.2%) that associated major morphological and genetic anomalies which worsened the outcome for this group. Also, anomalies of the portal venous system (PVS) were found in 87.5% of the assessed cases. Type II, ductus venosus-systemic shunt (DVSS), was found in 12.9%. PVS was normal in all cases, but half

of them associated other structural anomalies. Type IIIa (intrahepatic portal-systemic shunt) was detected in five cases (16.1%); three of them presented an intact PVS, and two associated partial portal venous system agenesis (PPVSA) and intrauterine growth restriction (IUGR). In three cases (9.6%) we diagnosed a new category of complex umbilical-portal-systemic venous anomalies, with multiple shunts Karyotyping was performed in 25 diagnosed cases, with abnormal results in ten (40%) of them. **Conclusions.** The prevalence of this pathology in a tertiary unit is higher than reported, 0.2%. The early detection of UPSVS is feasible. The postnatal outcome in cases with UPSVS mainly depends on the presence of major structural, genetic and portal abnormalities and on the complexity of the shunt. Care should be given in monitoring the fetal well-being, as intrahepatic portal-systemic shunts are associated with intrauterine growth restriction (IUGR).

Keywords: umbilical-portal-systemic venous shunt, umbilical drainage, agenesis of ductus venosus, fetal venous shunt, venous anomalies, portal system, prenatal diagnosis, color Doppler

Reacting to the unknown: are there risks with unassisted births? A case report

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Most births take place nowadays in hospital maternity wards assisted by medical staff and advanced medical equipment. However, we are still dealing with unassisted births, both elective and spontaneous. In this presentation, we are going to discuss two such cases of unassisted births from our neonatal clinic. The newborns came from unassisted childbirths, outside this maternity unit. We analyze the circumstances in which the babies were born, the risks and possible complications that could have occurred during delivery and the follow-up and

management plan of these unassisted infants. One of the newborns cared for in our neonatal clinic was delivered at term, while the other was birthed prematurely, both delivered without neonatal medical assistance. We also discuss the risks of neonatal infections (*Clostridium tetani* or hepatitis B virus), hypothermia, hypoxia and even death due to complications from medically unassisted labor.

Keywords: newborn, unassisted birth, risks, complications, *Clostridium tetani*, hepatitis B virus

Genetic correlations in severe neonatal respiratory disorders

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Respiratory neonatal disorders with genetic etiologies, immediately expressed after birth, are rare and frequently fatal. In this presentation, we are going to highlight the genetic component of these disorders in the neonatal practice. We discuss genetic disorders caused by the dysfunction of surfactant proteins and alveolar capillary dysplasia. These disorders are produced by mutations in the genes that encode surfactant proteins B and C, ATP binding cassette A3 (ABCA3) transporter,

as well as mutations in the FOXF1 gene. Respiratory distress and severe respiratory distress syndrome are the main clinical manifestations of the pathologies. These genetical disorders also have an aggressive progression and more often a fatal prognosis despite the best possible management provided.

Keywords: surfactant, surfactant proteins, SP-C, SP-B, ABCA3, FOXF1, alveolar capillary dysplasia, respiratory distress syndrome, respiratory distress

Limits of pulmonary radiography in the diagnosis of congenital respiratory malformations

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Introduction. Congenital lung abnormalities include a wide range of conditions, classified into three categories: bronchopulmonary, vascular, and combined. Their diagnosis is ideally made prenatally, by fetal ultrasound or other imaging methods, or postnatally, clinical and paraclinical. Among the paraclinical investigations, lung radiography would be expected to provide most reliable information. Unfortunately, it has its limitations. We present the cases of two newborns with congenital lung abnormalities that could not be diagnosed radiographically. **Materials and method.** The first case is a full-term newborn with asphyxia at birth and respiratory distress, clinically suspected to be the result of meconium aspiration syndrome. The radiological examination of the thorax showed cardiomegaly that completely occupied the left hemithorax and a right lung expansion up to the seventh rib, hyperlucent. In evolution, the baby developed massive left pneumothorax, which radically altered the radiological appearance. Persistent hypoxemia despite respiratory support with high parameters and the identification of a right to left shunt through the PDA raised the suspicion of pulmonary hypertension secondary to meconium aspiration, hypoxia and neonatal sepsis. Despite all interventions, the baby died

at 48 hours of age, and the post-mortem examination revealed severe bilateral pulmonary hypoplasia. The second case is a term baby with antenatal suspicion of lung malformation, but with normal postnatal clinical examination, laboratory investigations and chest radiography (anterior and lateral view). However, the pulmonary ultrasound examination revealed a hyperechoic area in the posterior-inferior region of the right lung of about 2 cm, with vascular connection with the descending aorta, on the basis of which the diagnosis of pulmonary sequestration was made. **Results.** The post-mortem examination in the first case revealed other malformations, probably caused by an unidentified genetic abnormality. In the case of the second newborn, the surgical intervention was postponed and the patient remained asymptomatic in the first year of life. **Conclusions.** For the diagnosis of congenital lung malformations, the careful investigation of pregnancy is of an overwhelming importance and postnatal chest X-ray should always be supplemented with additional imagistic methods. Among those, chest ultrasound is a reliable, cheap, noninvasive and available to the neonatologist.

Keywords: congenital lung abnormalities, radiographic, pulmonary hypoplasia, pulmonary sequestration

Pulmonary ultrasound in neonatal pathologies: a review

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Due to the upsurge of medical studies praising the efficiency of lung ultrasound (LUS) in diagnosing, follow-up and management of respiratory pathologies of the newborn, a new rising trend has been observed. LUS is starting to be preferred over chest radiographs. In this presentation, we are going to analyze the main sonographic features observed with the help of lung ultrasound in respiratory distress syndrome (RDS), transient tachypnea of the newborn (TTN),

diaphragmatic hernia (DH) and pneumothorax (PTX) in newborns. Furthermore, we are going to highlight the main diagnostic criteria used in the aforementioned pathologies and compare the advantages and disadvantages of neonatal lung ultrasound to chest radiograph.

Keywords: lung ultrasound, respiratory distress syndrome, transient tachypnea of the newborn, pneumothorax, diaphragmatic hernia, A-lines, B-lines

What's new about pulmonary bronchodysplasia?

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Premature newborn is the risk category for developing respiratory distress syndrome, which require mechanical ventilation, being thus exposed to the onset of pulmonary bronchodysplasia (BPD). Currently, the literature divides the pathophysiological mechanisms underlying the occurrence of pulmonary bronchodysplasia into two categories that have different histopathological characteristics, branching this pathology into "old BPD", respectively "new BPD". Regarding

the management of pulmonary bronchodysplasia, the guides are in a continuous development and improvement, therefore it doesn't exist a standardized protocol that integrates all its complications. This presentation is intended to bring to the fore the latest discoveries regarding the management of pulmonary bronchodysplasia.

Keywords: premature newborn, new BPD, pulmonary bronchodysplasia

Antibiotherapy and antibioprohylaxis in the perinatal period

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The rational use of antibiotics means that patients receive the appropriate medicine, in the appropriate dose, for an appropriate period of time, and at the lowest cost to them and their community (WHO). Antibiotics are the most common drugs used in neonatal intensive care (TINN). Virtually all newborns with extremely low birth weight receive antibiotics, and for all other birth weight groups admitted to TINN, the vast majority are treated with antibiotics. Only a small number of patients admitted to TINN have finally experienced the bacteriologically proven infection. Clark et al. showed in a study that 98% of premature newborns who received empirical antibiotics were negative for the cultures taken. The selection of appropriate antibiotic therapy is complex. The

prompt administration of antibiotics and resuscitation fluids is vital in the management of the newborn with sepsis. In newborns diagnosed with early or late sepsis, the goal is to start antibiotic therapy in the first hour, respectively as early as possible after confirming the diagnosis. Antibiotics are powerful, life-saving drugs, but when used improperly, they can have serious side effects. The presentation aims to sensitize the neonatologist to the decision to administer antibiotics in the neonatal period, the importance of evaluating as complete as possible the newborn, reviewing the main antibiotics that are used in this period.

Keywords: antibiotherapy, antibioprohylaxis, neonatal period

Oligoamnios following SARS-CoV-2 vaccine or infection-induced? Case report and literature review

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Introduction. The literature reports and recommendations are clear about the SARS-CoV-2 vaccine safety during pregnancy. The majority of pregnant women have a positive attitude towards SARS-CoV-2 vaccine, but some of them are still sceptic due to potential side effects. **Materials and method.** We searched the literature about the fetal consequences of SARS-CoV-2 vaccine following its usage during pregnancy. The keywords were: "SARS-CoV-2 vaccine", "pregnancy", "side effects", and "oligoamnios". The research was initiated by a unique case that was investigated in our clinic and we present it. **Results.** The literature reports a reduce number of studies regarding the SARS-CoV-2 vaccine impact during pregnancy. Our research revealed 78 publications. It is already established that pregnant individuals are more likely to develop severe COVID-19 and a significant number of pregnancy complications have been observed in COVID-19 patients. The majority of studies explore the role of the maternal antibody response to SARS-CoV-2

during pregnancy and the transfer of maternal antibodies from COVID-19 infected mothers to the fetus. We report a case with severe oligoamnios developed after SARS-CoV-2 vaccine in the third trimester of pregnancy. The placental insufficiency and uncertain fetal status imposed caesarean section. The maternal and fetal outcome were favorable. Antibody serological investigation revealed for both mother and new born high titers of nucleocapsidar and antispikes antibodies, significant for suspecting that the mother had the infection during pregnancy, and she also was vaccinated. The pathological exam of the placenta revealed important but nonspecific inflammatory response. **Conclusions.** The COVID-19 pandemic is still affecting the general population, including pregnant women. There are isolated cases of SARS-CoV-2 vaccine side-effects in pregnancy. Even so, women should be encouraged to receive the vaccine during pregnancy in order to avoid the severe consequences of COVID 19.

Keywords: oligoamnios, vaccine, SARS-COV-2

Optimization-based treatment guidelines in women with pelvic organ prolapse

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Pelvic organ prolapse (POP) represents a common gynecological disorder which affects the women's quality of life (QoL). Nowadays, many treatment options for women with POP have been developed in clinical practice. When discussing treatment options with POP patients, gynecologists make recommendations based more on clinical experience than on specific clinical guidelines. Our objective in the present review is to

identify optimization-based treatment guidelines for women with POP to serve as a reference in daily practice. We address the question related to the optimization methods for specific treatment guidance, which maximize the results and the patient's expectation regarding their future QoL.

Keywords: pelvic organ prolapsed, treatment optimization, guidelines, patient's expectation

Transplacental transmission of hepatitis C virus infection

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Introduction. Hepatitis C virus (HCV) can cause acute or chronic hepatitis. HCV can be spread through inadequate sterilization or reuse of syringes and needles, blood transfusion, injecting drug use, sexual intercourse, and vertical transmission from the mother to the fetus, although the last two are very rare. Vertical transmission of HCV occurs in rare cases (5-8%), more often during birth, and seldom transplacental, before birth. Women infected with HCV are more predisposed to give birth to preterm babies or low birth weight babies, or babies with congenital anomalies. **Materials and method.** We present the case of a 42-year-old woman, gravida 2, para 2, with a 32-33-week pregnancy, with not investigated deaf-mutism, who came in the emergency room for preterm labor contractions. At the ultrasound exam, we noticed fetal ascites, polyhydramnios and echogenic fetal bowel. The patient was admitted to our clinic for further investigations. We recommended an amniocentesis and a genetic consultation. The mother was tested for the TORCH panel, including HCV. The anti-HCV antibodies were present. In our service, the mother was also diagnosed with gestational diabetes. Following the clinical and paraclinical investigations performed, we decided to perform fetal cordocentesis, paracentesis and amniocentesis. Under ultrasound guidance, we performed cordocentesis and obtained approximately 8 ml of fetal blood and sent it for the following biological tests: albumin, direct bilirubin, indirect bilirubin, total bilirubin, blood count, blood glucose, direct Coombs test, HCV RNA, IgM antibodies for cytomegalovirus/toxoplasmosis/rubella/herpes simplex type 1 and 2. For the second puncture, the catheter was introduced at the level of the fetal peritoneal cavities under ultrasound guidance. We extracted 160 ml of fetal ascites fluid and sent it for cytological and biochemical analysis (leukocytes, red blood cells, glucose, albumin, creatinine, urea, proteins, Rivalta test, cytological examination). We also performed amniocentesis and collected 40 ml of clear

amniotic fluid. We used it to detect an infection with herpes simplex virus, Epstein-Barr virus, or parvovirus. **Results.** The biochemical tests and blood count performed from the fetal blood were within normal range. The direct Coombs test was negative. HCV RNA was detected (251 UI/mL). IgM antibodies for cytomegalovirus/toxoplasmosis/rubella/herpes simplex type 1 and 2 were all absent, and antibodies for Epstein-Barr virus and parvovirus B19 were also absent. The cytological exam of the ascites fluid showed smears with hypercellularity: very frequently lymphocytes, rare isolated mesothelial cells within normal cytological limits, rare polymorphonuclear leukocytes, and rare red blood cells. The biochemical tests performed from the fetal ascites fluid showed: red blood cells (3000/mm³), leukocytes 835/mm³, glucose 57 mg/dL, albumin 1.90 g/dL, creatinine 0.53 mg/dL, urea 19 mg/dL, proteins 3.4 g/dL, positive Rivalta test. HCV RNA was detected. IgM antibodies for cytomegalovirus/toxoplasmosis/rubella/herpes simplex type 1 and 2 were all absent. After fetal diagnosis, our colleagues from the infectious disease department recommended parenteral/oral hepatoprotective treatment for the mother; there was no possibility of antiviral treatment of the fetus. After performing the paracentesis of the fetus, the amniotic fluid was in the normal range, the fetal ascites were in small quantity with ultrasonographic hepatosplenomegaly aspect and normal echogenicity of the bowel. Almost seven weeks after the paracentesis, the patient gave birth to a baby, gender male, weight 2880 g, with an Apgar score of 7, which was handed over to the neonatology service, for further investigations. **Conclusions.** In rare cases, HCV can be transmitted vertically from the mother to the unborn baby. Cordocentesis and paracentesis helped us diagnose the fetus before birth and improve his prognosis after birth.

Keywords: ascites, HCV infection, cordocentesis, paracentesis, amniocentesis

Assessment, diagnosis and management in endometrial proliferations

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Endometrial hyperplasia (EH) represents an abnormal endometrial proliferation, characterized by an increase in the gland/stroma ratio >50%. EH is the most common cause of vaginal bleeding, both before and after menopause. Two systems exist for classifying EH: the World Health Organization (WHO) system and the endometrial intraepithelial neoplasia (EIN) system. According to EIN criteria, endometrial proliferative lesions include benign, reactive EH, intraepithelial endometrial neoplasia and endometrial carcinoma. Ultrasonography (US) is the main imaging technique for assessing the pelvis, both in terms of diagnosis and patient compliance. Two-dimensional US, through the sagittal and transverse planes, offers some limitations in the examination of endouterine pathology, while 3D examination adds the coronal plane, allowing the evaluation of the entire volume and continuity of angular structures. Sonohysterography may also be included among endometrial imaging options. Diagnostic and operative hysteroscopy, through the direct endometrial approach, represents the suc-

cessive and complementary stage in the diagnosis and therapy of endometrial proliferations. The succession of these two explorations, together with the experience of the examiner, can approach the accuracy of the pathological examination, with a concordance of 78-100% depending on the technique and the type of lesion. The correlation of US examination with hysteroscopy data and later with the surgical pathology diagnosis outlines the complete picture of the exploration of benign or malignant endometrial proliferations, both in terms of study and evaluation of the endometrium as an implantation marker, in terms of fertility status and subsequent proliferative potential in peri- and post-menopause. This paper aims at an integrated presentation of the endometrial proliferations through the perspective of imaging techniques and those of direct endometrial approach in correlation with the surgical pathology diagnosis and therapeutic management of these lesions.

Keywords: endometrium, hyperplasia, ultrasound, hysteroscopy, pathology

Management and outcome of preterm prelabor rupture of membrane (PPROM)

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The management of prelabor rupture of membrane (PPROM) is one of the most discussed issues in perinatal medicine. The guidelines recommend to manage the pregnancy expectantly whenever this is possible, taking into account certain factors, such as gestational age, presence or absence of maternal/fetal infection, presence or absence of labor, fetal presentation, fetal well-being, and cervical status. Our objective is to demonstrate the benefits of expectantly management. We undertook a retrospective observational analytical study in which we included PPRM pregnancy between 2015 and 2020. We followed the evolution of premature newborn using several parameters (neonatal death, respiratory distress syndrome, hypoxia, intraventricular hemorrhage, hypo-

glycemia, necrotizing enterocolitis, neonatal sepsis), originated from both PPRM pregnancies that were managed expectantly and PPRM that were delivered short time after admission. In PPRM pregnancies managed expectantly we included the patients to whom there had been administrated tocolysis, corticosteroids and antibiotics, so the delivery was postponed. We observed a significant decrease in neonatal complication in pregnancies that were prolonged. We concluded that the expectantly management of pregnancies with preterm prelabor rupture of membrane leads to a statistical benefit, decreasing the incidence of fetal and maternal complications.

Keywords: PPRM, neonatal, pregnancy, premature newborn, expectantly

Project of national implementation of screening for cervical and breast cancer

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The development of the Romanian society and medical education in the last 30 years will allow the medical system to move from the area of medical care of advanced cases of the disease to the area of primary and secondary prevention, in accordance with global efforts, increasing the duration and quality of life of individuals in populations whose health will be so greatly improved. The current screening of breast and cervical cancer in Romania remains predominantly opportunistic, inconsistent and uncoordinated. A personal project based on the analysis of the implementation problems of national screening programs in Romania supports the need to create specialized regional screening centers with financial and operational autonomy, with dedicated staff, equipment and standardized procedures, capable to ensure the development of population screening programs, according to the requirements and quality standards of the European Union. The national program should be remodeled, focusing on the rural population and, in particular, the western, southern and south-western regions, which still

maintains major mortality differences from the national level. Another essential prerequisite for the national program is to ensure the population character of screening, which is in line with European guidelines and domestic legislation guaranteeing universal access to preventive services for all citizens. Individual invitations *via* screening register or database must be linked to the population record database, cancer register, rare diseases register and mortality database. A fixed appointment date must be included in the invitation and a service continuum for positive cases has to be designed. I propose a radical change in the national approach to screening, through the full financial-operational dichotomization of medical services for therapy and screening. The establishment of these autonomous centers will open the way and provide the material basis for other screening programs, like the one for colorectal cancer that is already a requirement of the European Union, for lung and prostatic cancer screening programs that are currently evaluated.

Keywords: screening, cervical cancer, breast cancer

Fetal anomalies revealed late in pregnancy

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The diagnosis of fetal anomalies in the first trimester of pregnancy could be a challenging task; mostly, they are seen on the occasion of the second-trimester ultrasound. However, some fetal anomalies reveal only late in pregnancy. Finding an anomaly in the third trimester is an unpleasant surprise both for the parents and sonographer, as it can generate ethical, medical and even legal problems. We present some of the fetal anomalies that can be diagnosed by ultrasound only in the late mid-trimester or in the third trimester of pregnancy. Cerebral tumors, ventriculomegaly, cardiac rhabdomyoma, aneurysm of the left ventricle, renal anomalies and digestive anomalies correlated with hydramnios are discussed. We insist on the necessity

of correlation with magnetic resonance imaging findings in difficult cases; thus, accurate diagnosis, better management and precise prognosis could be provided. **Conclusions.** Sonographers must be aware that certain fetal anomalies could be seen only late in pregnancy, as present earlier but impossible to be observed at that time, or developed in the second half of pregnancy. On the other hand, parents must be informed that some pathologies develop in the first and second trimesters, and can be diagnosed by ultrasound only in the third trimester. Neonatologists and other staff that provide medical care to the affected babies have to know that certain anomalies develop late in pregnancy.

Keywords: fetal anomalies, ultrasound, late diagnosis

The impact of social support on the mental health of patients who gave birth during the COVID-19 pandemic

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Introduction. The postnatal period is for a woman a time of great vulnerability to become mentally unwell, and postpartum mood disorders are likely exacerbated by the COVID-19 pandemic. This retrospective study aims to understand the impact of social support on mental health of patients who gave birth during the COVID-19 pandemic. **Method.** The participants were 163 women (19-40 years old) recruited from hospital to complete an online survey between May and July 2021. We assessed depression, anxiety and perceived stress using validated questionnaires. Social support was assessed in relation to mental health. **Results.** Linear regression analysis

identified that social support has been a small predictor, explaining 10% of the variation ($\beta=-32$, $p<0.001$) in postnatal depression scores, 19% of the variation in anxiety scores ($\beta=-44$, $p<0.001$), and 5% of the variation in perceived stress scores ($\beta=-234$, $p<0.003$). **Conclusions.** This study shows that social support had a small impact on the mental health of the patients who gave birth during the COVID-19 pandemic. Contrary to expectation, social support was found not to be a significant predictor of postnatal depression, anxiety and perceived stress.

Keywords: COVID 19 pandemic, mental health, social support

Long-term results in radical vaginal trachelectomy with laparoscopic lymphadenectomy for cervical cancer

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Introduction. Radical vaginal trachelectomy with laparoscopic pelvic lymphadenectomy is the proposed solution for patients diagnosed with incipient cervical cancer who desire to maintain their fertility, a procedure that can also be performed during pregnancy. **Materials and method.** A retrospective study was conducted in our clinic over a period of 15 years. We included 85 patients diagnosed with cervical cancer in early stages, who underwent conservative treatment, consisting of radical trachelectomy and radical pelvic lymphadenectomy or pelvic sentinel lymph node biopsy. Two cases (1.7%) in which conversion to open surgery was performed were excluded. Among the included patients, 17 (20.48%) had viable pregnancies. Two procedures (2.4%) were performed in patients during the first and second trimesters of pregnancy. The trachelectomy was performed vaginally in 97.59% of cases and laparoscopically in 2.4% of cases. The pelvic lymphadenectomy was performed laparoscopically in

100% of cases. All patients were staged from CIS to stage IB1 FIGO (tumor <2 cm). The average age was 31.93 years old. All patients had HPV-HR+. Local recurrence was recorded in only one case (0.83%). The postoperative follow-up was performed by clinical examination, cytology and imaging. **Discussion.** The conditions for performing the conservative treatment are described in the internal protocol. Radical vaginal trachelectomy offers many advantages compared to the abdominal approach: minimally invasive anatomical surgery, it preserves the vascularity of the remaining uterus, it avoids ureteral complications. **Conclusions.** Radical vaginal trachelectomy with pelvic lymphadenectomy or pelvic sentinel lymph node biopsy is a safe procedure suitable in the management of early cervical cancer in women who desire to preserve their reproductive function or in a pregnant patient.

Keywords: cervical cancer, fertility, conservative treatment

Vaginal reconstruction with acellular biologic mesh in congenital vaginal malformations

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Introduction. Mayer-Rokitansky-Kuster-Hausner syndrome (MRKH) is a complex malformation of the female urogenital tract, including vaginal and uterine agenesis. Vaginal agenesis is also found in Morris syndrome. The aim of this paper is to present our experience in vaginal reconstruction. **Materials and method.** A retrospective study was conducted over a period of four years in our clinic. We included eight patients diagnosed with complex cervico-utero-vaginal malformations, in whom laparoscopically assisted vaginal neocolpoptosis with acellular biologic mesh was performed. Two patients (25%) had type II MRKH syndrome (associated with urinary tract malformations). Seven patients (87.5%) had 46XX karyotype, and patient (12.5%) had 46XY karyotype. The average age at diagnosis was 16.5 years old. The average age at the time of the intervention was 19.3 years old. The average operating time was 176 minutes and the average length of hospitalization was 72 hours. A long-term complication was registered, consisting in the stenosis of the vaginal graft. Seven pa-

tients (87.5%) had a normal sex life. The average length of the vagina was 9.4 cm. The postoperative follow-up was performed by clinical examination every 10 days, 30 days and every 3 months in the first year. **Discussion.** MRKH syndrome is an association of congenital defects of the Müllerian ducts. Depending on the association with other defects (urinary, intestinal etc.), it is divided into two types. The diagnosis is usually established at puberty, due to primary amenorrhea. There are several methods of vaginal reconstruction, using ileal, sigmoid, skin, muscle or acellular biologic mesh. The surgical outcome depends on the patient's postoperative cooperation. The main complication of this technique is vaginal stenosis. **Conclusions.** Vaginal reconstruction is a challenge in both gynecological and plastic surgery. Acellular biologic mesh neocolpoptosis is a viable method of treating vaginal agenesis, with good results regarding patient's satisfaction and sexuality.

Keywords: vaginal reconstruction, dermal matrix, malformations

The distance between the embryo and the yolk sac in correlation with the serum level of placental growth factor: how reliable is it?

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Introduction. The etiology of embryonic demise is multifactorial, with chromosomal abnormalities being the most common (60%). The purpose of this study is to evaluate the correlation between a serum biomarker, placental growth factor (PIGF), and an ultrasonographic parameter, the distance between yolk sac (YS) and embryo (DYSE), in assessing the prognosis of pregnancy evolutivity in the first trimester. **Method.** The study is a case-control prospective analysis that includes two groups of patients: 81 patients with first-trimester pregnancy in evolution, and 89 patients with embryonic demise, all of the patients having amenorrhea between 6 and 11 weeks. The endovaginal ultrasonographic exploration was performed to evaluate the distance between the lower pole of the embryo and the yolk sac. From

each subject enrolled in the study, 20 ml of blood was collected for PIGF dosing. **Results.** Regarding the DYSE in the case group, lower values were observed compared to the control group, the difference being statistically significant. In the statistical analysis of serum PIGF values, statistically significant differences were observed between the two groups ($p < 0.0001$). **Conclusions.** DYSE has a high positive predictive value in identifying pregnancies with potentially reserved evolutivity, this study demonstrating that a $DYSE < 3$ mm may lead to an unfavorable evolution of pregnancy. The low serum level of PIGF is associated with an increased rate of nonviable embryos.

Keywords: embryonic demise, first trimester, ultrasonography

Heart tumors and rhabdomyomas

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Introduction/objective. Heart tumors are rare and represent 1-2% of all cardiac anomalies. The most common type of tumors encountered are rhabdomyomas (80-90% of cases), but there can also be teratoma, fibroma, myxoma, hamartoma, rhabdomyosarcoma and others. Fetal outcome depends on the tumor size, impairment of flow, and the occurrence of rhythm disturbances. However, rhabdomyomas tend to shrink after birth and even eventually disappear completely. **Method.** Rhabdomyomas are homogeneous circumscribed tumors (oval or circular), with an echogenic bright density (evaluation with high-resolution ultrasound), and in most of cases are multiple, variable in size and site, occurring in the ventricular free wall, the ventricular septum or the atrial free walls. **Results.** Occasionally, they can become obstructive, if they become very large, and can lead to fetal hydrops, arrhyth-

mias or fetal demise. The interference with coronary arterial system may cause spontaneous death as well. Usually, rhabdomyomas are detected between 20-30 weeks of gestation. The main concern following diagnosis is the strong association of multiple rhabdomyomas with genetic conditions such as tuberous sclerosis (genetic disorder with autosomal dominant inheritance). When tuberous sclerosis is diagnosed clinically after birth, in 50-80% rate of cases it is associated with rhabdomyomas. **Conclusions.** Rhabdomyomas are the main cardiac tumor, detected between 20 and 30 weeks of gestation, in 40% of cases existing fetal intracranial lesions. It is commonly associated with tuberous sclerosis, and now the diagnosis is achieved by molecular genetic testing.

Keywords: rhabdomyoma, cardiac tumors, tuberous sclerosis

Epidemiological aspects of SARS-CoV-2 infection in the Obstetrics-Gynecology Clinic of Sibiu

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Introduction. Coronavirus disease is a pandemic disease with a rapid increase in cases and deaths since its first identification in Wuhan, in December 2019. The aim of the study is to evaluate epidemiologic and prognostic factors for the deliveries assisted in the Obstetrics and Gynecology Clinic of Sibiu since March 2020. Frequent manifestations include fever, cough, myalgia, headache and diarrhea. Abnormal testing includes abnormalities on chest radiographic imaging, lymphopenia, leukopenia and thrombocytopenia. **Materials and method.** We have evaluated all the deliveries from pregnancies complicated with COVID-19 during since March 2020. The data were obtained from the written information in the observation papers and in the delivery registers. There were obtained general data, delivery mode, age, gestational age, fetal weight, modality of delivery, newborn evaluation at delivery and *in utero* transmission of the disease. **Results.** A total of 85 pregnancies were assisted during the period in

observation, the average age of the pregnant women was 32.4 years old, the average gestational age was 38.1 weeks, 40 deliveries being assisted in the natural way and 45 by caesarean section. The main three indications for caesarean section were scarred uterus, advanced maternal age and thrombophilia. The average weight of the newborn was 3120 grams. No case of intrauterine transmission to the fetus was found. No severe complications, neither obstetrical nor respiratory, were registered. **Conclusions.** Because coronavirus disease might increase the risk for pregnancy complications, the management should optimally be in a healthcare facility with close maternal and fetal monitoring. No evidence of *in utero* transmission was seen in severe acute respiratory syndrome. Currently, no coronavirus-specific treatments have been approved by the Drug Administration in Europe or in the United States of America.

Keywords: COVID-19, epidemiology, obstetrics

The challenges of diagnosis and management of pregnancy associated with neurofibromatosis and Becker nevus syndrome. Report of a unique clinical case

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Introduction. Neurofibromatosis is a multiorgan affecting genetic disorder with multiple implication in a pregnancy course. Most frequent pregnancy-related complications in this background are first-trimester spontaneous abortion, stillbirth, intrauterine growth restriction and a high rate of caesarean section. Becker nevus syndrome is typically characterized by the presence of circumscribed cutaneous hamartoma, hyperpigmented and hypertrichotic, along with unilateral breast hypoplasia, muscle, skin and/or skeletal abnormalities. The association between these two disorders is an extremely rare event. Moreover, pregnancy in the context of these two disorders overlapped is an exceptional entity. **Case presentation.** We present

the case of a 24-year-old primiparous gravida, 25 weeks of gestation, who was admitted to our clinic for a multidisciplinary approach in the context of severe deformation of the cervical-thoracic-lumbar spine, in "C" shape, associated with multiple café-au-lait spots, suggestive for neurofibromatosis type 1, and an asymptomatic large hyperpigmented and hypertrichotic lesion in the lumbar region, clinically indicating Becker nevus syndrome. **Conclusions.** The course of this case was clearly a challenge, being a unique case in terms of reports in the specialized literature, both nationally and internationally.

Keywords: neurofibromatosis, Becker nevus syndrome, pregnancy

Therapeutic management in advanced vulvar cancer

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Introduction. Vulvar cancer is the fourth most common gynecological malignancy. According to predisposing factors, vulvar cancer can be categorized into two types: the first type is found in younger women and is correlated with HPV infection. The second type is independent of HPV and occurs in elderly women. Squamous cell carcinoma accounts for 90% of the vulvar cancer. Early-stage disease is defined as stage I or II. Locally advanced disease is defined as stage III or IVA. Stage IVB disease refers to women with distant metastases. **Materials and method.** We present a systematic review in which we included articles concerning the treatment of advanced vulvar cancer. We will also present several cases of advanced vulvar cancer in order to demonstrate the right management of such cases. **Results.** The treatment of vulvar cancer involves a combination of surgery, radiotherapy and, rarely, chemotherapy. If the disease is locally advanced and the lesion is ≥ 1 cm from the median line, a radical vulvectomy and ipsilateral dissection of the inguino-femoral lymph nodes are performed. If the lesion is in median line, a radical vulvectomy and bilateral dissection of the inguino-femoral lymph nodes are

performed. If the lymph nodes are positive, it can be opted for external beam radiotherapy of the primary tumor, lymph node and pelvis. If the nodes are negative, external beam radiotherapy of the primary tumor is performed. In all cases, adjuvant treatment follows. In patients with large tumors (above 4 cm) and macroscopic nodal metastases or extended localized disease to adjacent organs, the treatment course consists of chemoradiation with external beam radiotherapy to the tumor, groin and pelvis, as well as chemotherapy and surgery with perineal reconstruction. **Conclusions.** The basic treatment for vulvar cancer is surgery, but the radical nature of the procedure and adjuvant chemoradiation depends on the affectation of the lymph nodes in the inguino-femoral region and on the size of the tumor. The treatment can be long lasting and have a major impact on the quality of life. Perineal reconstruction can be accomplished using vulvoplasty, musculocutaneous flap, gracilis muscle flap, local flaps (transposition flaps) and biological graft flaps, with good results.

Keywords: vulvar cancer, surgery, radical vulvectomy, chemoradiation therapy, inguinal lymphadenectomy

Laparoscopic hysterectomy in Bega clinic from Timișoara

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Introduction. The patient with uterine pathology currently benefits from minimally invasive treatment, which brings essential advantages compared to open surgery. Laparoscopic hysterectomy is the ideal solution for patients who have indication for this type of approach. This paper aims to highlight the incidence and evolution of the cases treated in Bega Clinic, Timișoara.

Materials and method. A retrospective study was conducted between 2017 and 2019 in the obstetrics-gynecology clinics of the "Pius Brînzeu" County Emergency Clinical Hospital from Timișoara. The inclusion criteria were: the patient who underwent a total laparoscopic hysterectomy. In addition, the pathologies for which the treatment was applied, other associated pathologies if identified, the used surgical therapy, the evolution and

the complications were evaluated. **Results.** Most indications for laparoscopic hysterectomy were the benign pathology, which was confirmed by histopathological examination of the removed specimens. Preoperative evaluation of the case is critical to identify potential risk factors for laparoscopic surgery on the patient. The evolution of the circumstances and the complications identified both intraoperative and postoperative were noted. The importance of team cooperation was highlighted to obtain better communication and coordination, so it would be possible to improve the results in these cases. **Conclusions.** When it comes to performing a hysterectomy, laparoscopic surgery is a preferred method by both physicians and patients, due to multiple benefits.

Keywords: laparoscopy, hysterectomy, fibroma

The value of laparoscopic surgery in adnexal torsion

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Introduction. Adnexal pathology can be one of the causes of acute abdomen, especially in cases where torsion of the adnexa occurs. These cases usually represent a surgical emergency and sometimes require an immediate decision on treating the patient. This paper aims to identify the frequency of this pathology and how to treat it in Bega Clinic, Timișoara. **Materials and method.** Patients who benefited from laparoscopic surgical treatment for pelvic/abdominal pain syndrome that was proven intraoperatively to be caused by the torsion of the adnexa were included in this retrospective study. The study was conducted in the obstetrics-gynecology clinics of the "Pius Brînzeu" County Emergency Clinical Hospital from Timișoara, between 2017 and 2019. Both

preoperative and intraoperative aspects, and also the histopathological results, were noted. **Results.** Adnexal torsion was diagnosed in 16 cases. Eleven cases were solved laparoscopically. Both pathological aspects of the ovaries and the fallopian tubes were present, which were the cause of the torsion of the adnexa. The evolution of the cases and the intraoperative and postoperative complications were noted. **Conclusions.** Ultrasonography remains a valuable investigation to which every gynecologist can have access if they suspect an adnexal torsion. However, immediate laparoscopic surgery is currently the ideal solution for these cases.

Keywords: adnexal torsion, acute abdomen, laparoscopic surgery

Preeclampsia – screening, monitoring and clinical cases

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Introduction. Preeclampsia is one of the top five causes of maternal and perinatal morbidity and mortality worldwide and is associated with a higher risk of complications for both mothers and babies. Great advances in preeclampsia screening have been made over the decades. The key to maintaining optimal screening performance is to establish standardized protocols for biomarker measurements and regular biomarker quality assessment. Traditional first-trimester screening, which is based on maternal factors and biomarkers, is the best way to identify the high-risk group and to initiate therapeutic intervention, reducing the rate of disorder complications. Very close maternal-fetal surveillance is required in management of preeclampsia. **Method.** We present the management of four early-onset preeclampsia cases followed-up in the "Dr. I. Cantacuzino" Clinical Hospital, Bucharest. The first- and second-trimester screening revealed an increased risk for developing preeclampsia before 34 weeks of gestation. Therefore, timely therapeutic intervention and careful monitoring were required. **Results.** Two of the patients developed

preeclampsia at 28 weeks of gestation, one at 29 weeks of gestation and the fourth one at 22 weeks of gestation. Preterm delivery was required due to maternal and fetal complications. Screening of the patients and appropriate monitoring lead to successful management of the cases.

Discussion. A major challenge in modern obstetrics is the early identification of pregnancies at high risk of early onset preeclampsia and undertaking the necessary measurement to improve placentation and reduce the prevalence of the disease. Various first-trimester prediction models have been developed. The American College of Obstetricians and Gynecologists (ACOG) and the National Institute for Health and Care Excellence (NICE) have proposed a screening based on maternal risk factors. The Fetal Medicine Foundation first-trimester prediction model, which includes a combination of maternal factors, measurements of mean arterial pressure, uterine pulsatility index and placental growth factor, has higher detection rate.

Keywords: preeclampsia, screening for preeclampsia, guidelines

Implications of hypertriglyceridemia-triggered acute pancreatitis during pregnancy

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Acute pancreatitis (AP) is a rare event during pregnancy, but its occurrence poses both mother and fetus at substantial risk. AP peaks in the third trimester of pregnancy or early during the postpartum period. Among the etiologies of acute pancreatitis, hypertriglyceridemia triggered disease must be suspected in high-risk patients. Triglyceride levels exceeding 1000 mg/dL are considered the threshold for suspicion of severe pancreatitis onset. There are no pregnancy-specific diagnostic and

therapeutic protocols. Close follow-up and prophylactic treatment must be applied to high-risk patients. Scarce pharmacologic options are amenable during pregnancy for diagnosed hypertriglyceridemia-triggered acute pancreatitis, while the use of apheresis is still under debate. The obstetric context may complicate decision-making and bears potential legal implications.

Keywords: hypertriglyceridemia, acute pancreatitis, pregnancy

Comparison of demographic and ultrasound regression formulas for hypertensive pregnancy complications

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Introduction. Hypertensive complications of pregnancy can often lead to serious, even life-threatening situations for the mother and fetus. First-trimester uterine artery Doppler can be a predictive tool for such complications. **Materials and method.** We have examined 305 pregnant patients from 11 weeks to 13 weeks+6 days gestational age by ultrasound in our hospital, both as inpatients and outpatients, and we have assessed the evolution of their pregnancy. We have calculated the values of AUC for hypertensive pregnancy complications for different combinations of demographic and/or ultrasound factors. **Results.** There were 21 patients with hypertensive pregnancy complications (6.89%), and 284 with normal outcome (93.11%). Three patients had gestational

hypertension (GH; 0.98%), and 18 had preeclampsia (PE; 5.90%), with 12 cases of mild PE (3.95%) and six cases of severe PE or 1.97%). The AUC values ranged from 0.510 to 1.000 for GH, 0.507 to 0.934 for mild PE, 0.505 to 0.944 for severe PE, 0.532 to 0.870 for all PE, and 0.506 to 0.885 for all hypertensive complications. The range of the mean values of each separate combination was 0.577-0.926. GH had the highest mean of AUC values, with 0.767. The total mean value was 0.690. **Conclusions.** The combination of all available ultrasound and demographic factors offers the highest AUC values for all hypertensive pregnancy complications in our study.

Keywords: screening, pregnancy, uterine artery, preeclampsia, area under curve

Statistical comparison of regression formulas for hypertensive pregnancy complications

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Introduction. Hypertensive complications of pregnancy can often lead to serious, even life-threatening situations for the mother and fetus. First-trimester uterine artery Doppler can be a predictive tool for such complications. **Materials and method.** We have examined 305 pregnant patients from 11 weeks to 13 weeks+6 days gestational age by ultrasound in our hospital, both as in and outpatients, and we have assessed the evolution of their pregnancy. We have calculated the values of AUC for hypertensive pregnancy complications for different combinations of demographic and/or ultrasound factors without and with multiples of median (MoM) of pregnancy associated plasma protein-A (PAPP-A) and we have compared the results of the two studies. **Results.** There were 21 patients with hypertensive pregnancy complications (6.89%), and 284 with normal outcome (93.11%). Three patients had gestational hypertension

(GH; 0.98%), and 18 had preeclampsia (PE; 5.90%), with 12 cases of mild PE (3.95%) and six cases of severe PE (1.97%). The study including PAPP-A offered the majority of higher AUC values for GH (61.11%), severe PE (88.89%), all PE (75%) and all hypertensive complications (52.78%) and the higher mean AUC value for mild, severe and all PE, while the ultrasound study offered the majority for mild PE (58.33%) and the higher mean AUC value for GH and all hypertensive complication. The only statistically significant difference was that between the mean AUC values of the two studies for severe PE ($p=0.0004$). **Conclusions.** The combination of all available ultrasound and demographic factors offers the highest AUC values for all hypertensive pregnancy complications in our study.

Keywords: screening, pregnancy, uterine artery, preeclampsia, area under curve

The benefits of HPV vaccination beyond prophylaxis

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Vaccination against human papillomavirus (HPV) was introduced into clinical practice as the most effective strategy for primary prevention of cervical cancer and HPV-induced benign or premalignant lesions. It has been demonstrated that not only adolescents but also adults respond positively to vaccine immune stimulation. A history of abnormal Pap test and genital warts or HPV infection may reduce the efficacy of vaccination, but does not contraindicate it. HPV vaccination increases the magnitude and quality of natural immunity. Radical

treatments of cervical lesions do not ensure the elimination of HPV infection. Using the vaccine without the surgical removal of the HPV lesion is useless. However, combining surgical treatment and HPV vaccination can play a crucial role in reducing recurrences. Evidence supports the fact that universal vaccination, of both men and women, from adolescence to 45-50 years old, would represent the optimal modality to control HPV infection-related diseases.

Keywords: HPV vaccination, prophylaxis

Thrombophilia-related and placenta-mediated pregnancy complications

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Introduction. The aim of this paper is the integrated approach on the influence of thrombophilia on pregnancy and trophoblastic or placental structure, to study the impact of clinical conditions associated with maternal thrombophilia on the placenta, and their correlation with ultrasonographic (US), morphological and immunohistochemical study of placental angioarchitecture. **Materials and method.** This is a retrospective and prospective study, observational and descriptive, accomplished in five years (2017-2021), with a total of 473 selected pregnant women diagnosed with thrombophilia (TG), and a number of 317 nonthrombophilic pregnant women (nTG) with or without placenta-mediated pregnancy complications (PMPC). All patients included in the study were thrombophilia tested. The patients included in the study group were Caucasian, with a mean age of 30 years old (17-43). Following the application of the inclusion/exclusion criteria, 439 patients were retained in the TG group. **Results.** The tests performed showed that, out of a total of 439 cases (TG), 357 (81.32%) represented hereditary thrombophilias, 79 (17.99%) of them were acquired thrombophilias, and three cases (0.68%) had an equivocal result. The macroscopic analysis of the placenta and umbilical cords showed that most morphological changes are more common in the TG group, thus suggesting the involvement of thrombophilia in the patho-

genesis of PMPC. Placental histological and immunohistochemical changes are configured in a spectrum of nine microscopic findings. Obstetric thrombophilia specific therapy included, under various treatment regimens, acetylsalicylic acid, low-molecular-weight heparins, folic acid and supplements containing vitamins B6 and B12. **Conclusions.** Thrombophilia impacts the placental structure, especially in its angioarchitecture. PMPC occur with a relatively higher incidence in thrombophilia than in nonthrombophilic cases. Obstetric thrombophilias are associated with an increased risk of perinatal complications. The US anomalies of the fetal and maternal-fetal Doppler hemodynamic profile have as background the morphological changes that imply the alteration of the placental angioarchitecture. By integratively analyzing the clinical observations, US Doppler, but especially the morphological and immunohistochemical ones, a placental morphological pattern of thrombophilic type can be outlined. Antithrombotic or anticoagulant therapy should be accurately administered, either preconceptionally or from the onset of pregnancy, and then continued to be differentiated, until the second trimester or even until the end of pregnancy, aspects dictated primarily by the diagnosis of the thrombophilia type.

Keywords: thrombophilia, placenta, morphology, immunohistochemistry, angioarchitecture

COVID-19 pandemic effects on maternal follow-up and anemia as a pregnancy complication – experience from a tertiary care center

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Introduction. The current outbreak of coronavirus (COVID-19) disease, declared by WHO as a global pandemic on 11 March 2020, comes with unprecedented effects on health systems worldwide, pregnant women and their fetuses being considered a high-risk population. **Objectives.** Our study aims to evaluate the impact of the COVID-19 pandemic on pregnancy and peripartum anemia, one of the most frequent and important complications of pregnancy, with severe effects on maternal and neonatal health. **Materials and method.** A retrospective observational study was conducted in the Obstetrics and Gynecology Department of the "Dr. I. Cantacuzino" Clinical Hospital, a tertiary care maternity in Bucharest. The study included 1824 pregnant women with anemia, out of 2962 births that were admitted in our hospital between the 1st of April 2019 and the 31st of March 2021, comparing maternal and neonatal outcomes one year before and one year after the COVID-19 outbreak, respecting current diagnostic criteria recom-

mended by WHO and regional guidelines (hemoglobin concentration <11 g/dL before/after birth). **Results.** The results showed that the pandemic group had poor or no follow-up during the pregnancy compared with the period before, had more severe anemia, needed more intravenous iron therapy or blood products administration, with the necessity of longer hospitalization periods for the mothers and the neonates and higher peripartum complications and premature birth rate. **Conclusions.** Anemia is one of the most frequent complications of pregnancy and birth, which, in our experience, was worse in the global context of COVID-19 outbreak, mostly due to insufficient prenatal care. Future research needs to focus on pregnancy anemia impact for maternal and infant health and on developing strategies of increasing the follow-up surveillance to reduce anemia among pregnant women.

Keywords: maternal anemia, iron depletion, pregnancy complications, COVID-19 and pregnancy

Why use an ultrasound evaluation in the labor ward?

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Introduction. In obstetric practice, every physician is aiming to shun from any difficult vaginal delivery, as it can lead to serious fetal and maternal complications. Both doctor and pregnant patients at term who are admitted in the labor ward want to know the chance for a successful vaginal delivery and the risks for an operative delivery (instrumental delivery or caesarean section). Clinical evaluation remains the gold standard for managing labor. However, the use of intrapartum ultrasound (IPU) has been proposed to help physicians in managing labor as a noninvasive method to predict obstructed labor in low-risk patients and to identify high-risk patients even before the onset of the partum. **Method.** We reviewed all studies demonstrating that ultrasound examination is more accurate and reproducible than the clinical

examination for evaluating cervical dilatation, fetal head station, and fetal head position. **Results.** Discovering and using a risk tool may be useful for reassuring most women regarding their likelihood success at achieving an uncomplicated vaginal delivery, as well as selecting those patients with such a high risk for caesarean delivery that they should avoid a trial of labor. Such a risk tool has the potential to highly improve planning hospital service needs and minimizing the patients' risk. **Conclusions.** In the last decade, IPU assessment has become a need, as it proved to be a reliable and objective method for obstetricians in decision making and preventing unnecessary intervention. IPU should be used as a complementary tool in labor and not undermine the clinician's skills.

Keywords: intrapartum, ultrasound, prolonged labor

Vulvar cancer – a case report of a patient who presented vulvar squamous cell carcinoma with rapid disease progression

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Vulvar cancer is a rare malignancy of female genitalia that involves vaginal lips, the opening of the vagina and the clitoris. Every year, 27,000 women worldwide are diagnosed with vulvar cancer, the highest incidence being in Europe, North and South America. The pathogenesis of the disease arises from either human papillomavirus (HPV), affecting primarily younger women, or from vulvar dermatoses, such as lichen sclerosis, affecting older patients. The clinical presentation in most patients involves vulvar pruritus or vulvar lesions that present ulcerations, bleeding, pain, difficulty in urination and pain at sexual intercourse. During the COVID-19 pandemic, the access to medical care was severely restricted so, as a result, patients come in the clinics with advanced stages

of diseases. The aim of this paper is to present the case of a 53-year-old woman who was referred to our clinic for a vulvar pain and pruritus for approximately three months. The clinical examination revealed a large vulvar tumor that involved both labia majora and minora, the vaginal introitus, the clitoris and the mont pubis. Enlarged lymph nodes were palpated in bilateral inguinal region. After further investigations, we found out that the patient was biopsied a year earlier and the anatomopathological result showed a LSIL vulvar lesion with a starting point at the level of a papilloma. Unfortunately, the patient experienced fast general health deterioration, and shortly after death occurred due to generalized sepsis.

Keywords: vulvar cancer, squamous cell carcinoma

The importance of the three-vessel trachea view in prenatal screening

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Introduction/aim. It is strongly recommended to include the three-vessel trachea (3VT) view in the prenatal screening scans, as the last step of a continuous cardiac sweep starting from the upper abdomen. The aim of this study was to evaluate the additional role of the 3VT in identifying congenital heart disease, compared to using the 4C view only. **Materials and method.** We reviewed the scans of 1327 low-risk pregnancies (including 10 sets of twins, of which seven bichorionic and three monochorionic) presenting for prenatal screening in a private setting. The scans were performed in the second and/or third trimester, the cardiac screening consisting of a sweep from the upper abdomen, 4C, outflow tracts, 3VT, to supraaortic area (subclavian artery and brachiocephalic vein), followed by sagittal scanning of the aortic arch and bicaval view, including Color Doppler for each view. All cardiac anomalies were extracted and then we analyzed the performance of using 4C only and 3VT

only in cardiac screening. **Results.** Twenty-eight cardiac anomalies were identified (2.1%), in the singleton pregnancies only. None associated genetic anomalies, nor were they syndromic. Using only 4C, we could identify 42.8% of anomalies, and by using only 3VT/supraaortic area we identified 71.4% of anomalies. By including 3VT/supraaortic area, 57.1% of additional anomalies were identified, 17.8% being clinically significant and also detectable in 2D mode (one dextrotransposition of the great arteries, three hypoplastic aortic arch, one pulmonary stenosis, one right aortic arch with vascular). 35.7% were isolated anatomical variants (seven aberrant right subclavian artery, three persistent left superior vena cava). **Discussion and conclusions.** The 3VT view improves the detection rate of clinically significant congenital heart disease, even without using Color Doppler.

Keywords: prenatal screening, three-vessel trachea view, congenital heart disease

Advanced breast carcinoma diagnosed during pregnancy

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Introduction. Breast cancer is the most common type of cancer in women and the second leading cause of death from neoplastic disease. In recent years, there has been a decrease in the age of onset of this pathology, more women being diagnosed with breast cancer during pregnancy. Moreover, the decrease in accessibility to medical services due to the COVID 19 pandemic has led to the appearance of advanced cases of breast cancer diagnosed during pregnancy. **Case report.** We present two cases of advanced breast cancer

diagnosed in pregnancy, both patients presenting in our service for bone pain and being diagnosed with bone metastases with unknown cancer origin, which was later confirmed as breast cancer. **Conclusions.** Although pregnancy-associated breast cancer has become a more common pathology compared to previous decades, the fear of addressing medical services due to the COVID-19 pandemic leads to a late diagnosis with poor outcome.

Keywords: breast cancer, pregnancy, metastasis

Immunomodulation in genital HPV infections – in between mirage and real benefit

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Introduction. HPV is nowadays a frequent infection after sexual life commencement. Due to affordable information sources, patients begin to understand the interconnection between the aggressivity of the viral infection and the local and general defending mechanisms. Clinicians, on the other hand, are also interested in resolving as quick as possible these annoying infections. **Materials and method.** Questions we try to answer are: Is there a real benefit in some enhancing of the natural host defending mechanisms? Is coping with stress important even for an HPV-infected patient? Does smoking play a real part in this game? What about vaginal microbioma? As far as we know at this moment, patients with alterations of the vaginal microbioma are more prone to have persistent HPV infections and, as such, are at higher risk for developing high grade cervical intraepithelial neoplasia. But why do these imbalances in vaginal flora occur? **Results.** Beginning with advices toward a healthier lifestyle, to stopping smoking and

a better stress control, most patients expect from the clinician some sort of miraculous treatment in order to enhance the defending mechanisms against HPV genital infection. Most treatments are over-the-counter available and information is overflowing the internet sites and forums. The question is: do they really work, for how long, at what costs and with what benefit? In use there are local treatments (immunomodulators – natural or synthesis, ovules, sprays, creams) or general immunomodulators (isoprinosine, orthomolecular supplements). Alternative therapies (herbal therapies, homeopathy, acupuncture, Chinese medicine) are reported to have some results. Therapeutic vaccines and specific immunotherapy are intensively studied. **Conclusions.** Immunomodulation in genital HPV infection is still an area of quicksand and personalized medicine is for the moment the answer in this domain.

Keywords: general and local immunomodulation, genital HPV

Large loop excision of the transformation zone: “see and treat” or “think twice about it”?

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Introduction. Large loop excision of the transformation zone (LLETZ) is a valuable procedure for the management of cervical intraepithelial dysplasia. Several advantages are certain: it is an outpatient procedure, it may be both diagnostic and therapeutic, the cervical tissue heals rapidly, the future obstetrical outcome is satisfactory. **Materials and method.** But all these advantages conduct sometimes to a hasty attitude – the “see and treat” approach, performing the procedure immediately after a colposcopy, or even worse, immediately after receiving a slightly modified cervical cytological result (without even visualizing the source-tissue through the colposcope). The “see and treat” approach is justified in thoroughly selected cases: absence of any cervical infection, absence of vaginosis, postmenstrual period, visualization of the entire transformation zone

(which is obviously possible only during colposcopy), the colposcopic impression of moderate or high-grade dysplasia; the patient lives remote from the office or may be lost for follow-up. **Results.** Maybe sometimes it's better to “think twice about LLETZ”. The consequences of an unnecessary rush may be moderate, but also severe: chronic cervicitis, chronic pelvic pain, deep dyspareunia, repeated and worrisome episodes of vaginal bleeding, infertility, risk of abortion or premature birth. Postponing the procedure for no more than one month in selected cases may be more advantageous for the patient than a life-time burden in gynecological pathology. **Conclusion.** The precept *Primum non nocere, deinde curare* has to be respected in the management of cervical dysplasia.

Keywords: LLETZ, indications, risks

Role of pulse oximetry in the screening of congenital heart diseases

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Introduction. Congenital heart defects are the most common malformations and a quarter of them are critical and often require surgery or catheterization in the first weeks of life. The early detection of them is essential for a good outcome. **Materials and method.** This is a prospective descriptive study, performed over a period of three months, on a number of 550 newborns, born in level 2 maternity. We analyzed a group of 541 newborns hospitalized in the Neonatology Department of the Clinical Hospital Baia Mare, in which pulse oximetry screening was performed, and in those with positive screening, cardiac ultrasound was performed. On the third day of life, pulse oximetry screening was performed, data were collected on the mother and pregnancy and on the newborn, respectively. **Results.** We analyzed 541 births, of which 318 (58.78%) natural births and 223 (41.22%) births by caesarean section. We obtained positive screening in 79 cases. The characteristics of the group with positive screening are: average weight

3068.41±680 grams; average gestational age 37.5±2.75 weeks, preductal saturation of 92%±0.04, and postductal saturation 90%±0.04. According to the screening, there is a higher percentage of saturations between 91% and 95% (57.26%), compared to O₂ saturations that have a difference of more than 3% between pre- and postductal saturation, the percentage being 42.73%. Analyzing resuscitation at the delivery room, we have 41.77% needed free-flowing O₂, 20.25% of newborns needed CPAP-type ventilator support, and 1.26% needed intubation. Of the cases with positive screening, in eight cases echocardiography confirmed: interventricular septal defect (four cases), interatrial septal defect (three cases) and pulmonary stenosis (one case). **Conclusions.** Congenital heart disease was confirmed in 10.12% of newborns with positive screening. Pulse oximetry screening is a simple, noninvasive, painless and inexpensive way to diagnose congenital heart defects.

Keywords: congenital heart, newborn, screening

The late preterm infants – a continuous challenge

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Introduction. The late preterm is the newborn of the gestational age of 34-36 weeks with 6 days, also called near term or moderately premature. Although considerable progress has been made in gynecology and neonatology in recent years, prematurity has remained the important cause of neonatal morbidity and mortality. **Materials and method.** This paper is a descriptive study, at 12 months, performed by the Neonatal Intensive Care Unit (NICU) within the Obstetrics-Gynecology I, Cluj-Napoca. We analyzed data on pregnancy, mother and neonatal data. We evaluated the cost within the two compartments: NICU and Premature. **Results.** The study group included 142 newborns with late preterm born in the clinic or transferred from level 1 or 2 units. In the study group, female prematurity predominated. The gestational age of 36 weeks predominated in the study group, as well as the weight between 2000 and 2490 grams. Caesarean section predominated as a way of birth. Analyzing pregnancy pathology in the study group, pregnancy-induced hypertension and ges-

tational diabetes predominated. Respiratory pathology was present in 87% of cases due to respiratory distress caused by surfactant deficiency, transient tachypnea and pneumothorax. 30% of them required noninvasive respiratory support with an oxygen demand in the first day of life of 28.58±11.68%. During the hospitalization, in 82% of cases hyperbilirubinemia was encountered, and hypoglycemia in 8%. The expenses during the hospitalization are 2993.57±213.3 RON on the NICU department and 1787.67±89.2 RON on the premature department. **Conclusions.** Late prematurity is an important factor in hospitalization in the neonatal intensive care unit. The main risk factors for late prematurity are pregnancy-induced hypertension and gestational diabetes. Early morbidities in the newborn with late prematurity were respiratory distress due to surfactant deficiency and hyperbilirubinemia. Late premature involves significant costs in both the intensive care unit and the premature department.

Keywords: prematurity, late preterm, morbidity

Inherited thrombophilia in pregnancy: a cause of postpartum hemorrhage?

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Objective. Postpartum hemorrhage (PPH) is the leading direct cause of maternal death and most difficult to control are hemorrhages associated with coagulation disorders. The aim of this study was to determine whether antithrombotic therapies increase the risk of PPH and puerperal genital hematomas. **Method.** The medical records of patients with hereditary thrombophilia and PPH or puerperal genital hematomas were reviewed retrospectively. The following baseline and obstetric data were collected: age, gravidity, parity, body mass index, duration of pregnancy, history of previous deep vein thrombosis or adverse pregnancy outcome, type of birth, onset of postpartum hemorrhage and maternal hematomas, and need for transfusion of blood products. In case of vaginal

births, the following were considered: type of labor and delivery, duration of labor, and birth weight. **Results.** In only 12 cases, we found a possible direct association between the use of thromboprophylaxis with low-molecular-weight heparin (LMWH) during pregnancy and the occurrence of PPH or puerperal hematomas (vaginal/vulvar, broad ligament, uterovesical fold, and epidural after spinal anesthesia). **Conclusions.** The need to evaluate the PPH in women receiving heparin prophylaxis became obvious in pregnancies complicated by inherited thrombophilia, although the lack of a clear association is likely attributable to the multifactorial nature of PPH.

Keywords: pregnancy, inherited thrombophilia, low-molecular-weight heparin, postpartum hemorrhage

The importance of diagnosis of uterine congenital malformations in pregnant patients

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Introduction. Congenital uterine abnormalities are the result of fusion and/or resorption defects of the Müllerian ducts, which appear during organogenesis. These malformations are often asymptomatic; therefore, their incidence is difficult to assess. The impact on fertility is variable and the diagnosis can be delayed by not seeing a doctor, presenting in advanced pregnancy or after complications. The most common complications are subfertility, menstrual disorders, premature birth, miscarriage, or dystocic labor, along with secondary complications from associated urinary tract malformations. **Materials and methods.** We present the case of an 18-year-old patient, gravida 2, para 2, who presented at the hospital in labor, known with scarred uterus after caesarean section (three years ago, in 2019), at a gestational age estimated at 39 weeks, with pelvic presentation, affirmatively without personal medical pathological history. The examination revealed a complete vaginal septum with separate cervixes. The patient did not present medical documents from the current or previous pregnancy. **Results.** For the prophylaxis of uterine rupture, the patient gave birth by caesarean

section to a live fetus, male, 3080 g, AI9. A septate uterus was found intraoperatively. Tubal surgical sterilization was performed upon request. The postoperative evolution was favorable. Although the importance of investigating possible associated malformations of the urinary tract was explained to the patient, she did not report to the routine check-up six weeks after giving birth. **Conclusions.** The presented case had a favorable evolution, despite the lack of monitoring and of information related to the current and previous pregnancy. Unfortunately, the vast majority of cases present with complications and the lack of data related to previous birth and/or associated pathology could be solved by better communication between specialized medical services. The early diagnosis of congenital uterine malformations may decrease the incidence of miscarriages and premature births. Also, knowing that the genital and the urinary system have a common development in the intrauterine life, it is important to investigate a possible association of malformations between the two systems.

Keywords: uterine congenital malformations, septate uterus, dystocic labor, better communication

Obstetrical soft tissue trauma during vaginal delivery in the Romanian adolescent population – a multicentric comparative study with adult population

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Introduction. Romania is a country with high rates of adolescent births, associating scarce comprehensive obstetrical management in this specific population. This research aims to assess soft tissue trauma after vaginal birth in teenage mothers compared to their adult counterparts. **Materials and method.** A retrospective case-control study was conducted during one year in two hospitals. All vaginal deliveries were considered; age cut-off value was considered at 20 years old for case and control groups. Lacerations were divided into three subgroups, considering the involved anatomical region: Group I – labial and periurethral lacerations; Group II – vaginal and perineal lacerations; Group III – cervical lacerations. **Results.** There were 1498 women included in the study, 298 young mothers and 1200 adults. Teenagers were more likely to have an episiotomy during delivery compared to adult women, 56% versus 26.7%

($p=0.00$, Pearson Chi-Square). Group II lacerations were the most frequent types of birth trauma in both study groups. Fetal weight ≥ 4000 g associated a twice higher risk for vaginal and perineal lacerations when age criterion was not considered (OR=1.98; 95% CI; 1.13-3.47; $p=0.01$). Similar results were obtained in the adult reference group (OR=1.98; 95% CI; 1.08-3.62; $p=0.04$). The incidence of Group I and II lacerations increased with age, from 0% and 9.1% between 10-14 years old to 6%, and 26.2% between 18 and 19 years old. **Conclusions.** All groups of lacerations were more often identified in the case group, compared to the adult group. Fetal macrosomia could not be documented as a risk factor for obstetrical injury in young mothers.

Keywords: episiotomy, vaginal delivery, perineal trauma, soft tissue injury, birth laceration, adolescent birth

Update on maternal immunization excluding COVID-19 vaccine

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Immunization is part of medical care for both adult and children and the last year is reminding us of this field more than ever. The vaccination of the pregnant woman has proven useful not only in protecting the mother, but also the offspring in some pathologies. If influenza vaccines were not studied enough 15 years ago and were not recommended during pregnancy, today all the international medical associations consider them safe for administration at this period of a woman's life. We have reviewed the latest set of recommendations for immunization during pregnancy made by some of the major medical associations in the world, such as the American College of Obstetricians and Gynecologists

(ACOG), the European Board and College of Obstetrics and Gynecology (EBCOG), and others, and also other publications such as UpToDate, in order to assess the news in vaccination during pregnancy. The vast amount of literature emerging in the field of COVID-19 vaccination led to numerous opinions and recommendations on this issue that have already been published and disseminated in the past months, including the effects of this vaccine during pregnancy, therefore this topic was excluded.

Keywords: immunization during pregnancy, maternal immunization, maternal care during pregnancy, immunization

Induction of labor using the Foley balloon in patients with post-caesarean scar uterus

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Introduction/objective. Patients with scarred uterus have an increased risk of uterine rupture, representing the main reason for abandon of another method to induce labor. Consequently, the scarred uterus is the most common indication for repetitive caesarean section. The aim of our paper is to evaluate the main parameters of delivery mechanism and to assess the fetal well-being at birth in patients with scarred uterus after a previous caesarean section, induced by Foley balloon, at the Brugmann University Hospital, in 2017. **Methodology.** A retrospective study has been performed for the year 2017 in a referral university hospital, analyzing the files of patients enrolled using the software Mosos-O, Mosos-CTG, QPlanner and ASTRAIA. The statistical cohort under analysis consisted of the control group (68 pregnant women with scarred uterus after a caesarean section, with the labor induced by using a Foley balloon), and the pilot group (61 pregnant women in which the labor was induced by Foley balloon for patient convenience).

Results. Patients in both study groups benefited from the onset of labor between 40 and 41 weeks of amenorrhea. Of the control group, 69% of pregnant women gave birth vaginally, compared to the pilot group in which vaginal births accounted for 70.5%. Patients from the control group (79%) had a eutocic birth compared to 63% of patients from the pilot group. The Apgar score at 5 minutes of life in the case of the control group presented in 86.86% a value higher than 7, compared to the same parameter in the pilot group (90.15%). There were no cases of uterine rupture. **Discussion and conclusions.** Labor induction using Foley balloon for pregnant women with scarred uterus after caesarean section is a feasible technique that deserves to be proposed to this profile of patients providing identical obstetric and neonatal outcome as in pregnant women with non-scarred uterus induced by the same method.

Keywords: induction of labor, post-caesarean scar uterus, Foley balloon

Considerations on COVID-19 pregnancy: a case series during 2020-2021 in Prahova region, southern Romania

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Introduction/objectives. Coronavirus 2019 (COVID-19) has rapidly spread worldwide. Previous publications mostly addressed the impact of COVID-19 on elderly population with chronic comorbidities, being at risk for severe evolution. However, data regarding the association of COVID-19 infection with pregnancy is still scarce. Therefore, we aimed to present a case series of six pregnant female patients, diagnosed with COVID-19. **Materials and method.** Six patients, with confirmed COVID-19 by real-time reverse transcription polymerase chain reaction test were admitted at the Obstetrics and Gynecology Hospital, Ploiești, Romania. Clinical information was collected on admission and during hospitalization by physicians in charge. **Results.** The mean age of the patients was 26.6 years old. Mean hospitalization duration was 11 days. The infection was diagnosed in the first 36 weeks of pregnancy. Four patients, without risk factors, presented bilateral pneumonia at 48 hours of admission. The pregnancy evolution was good, except for two cases with preterm delivery onset at 33 and 35 weeks. All four patients received standard therapy with oxygen, antibiotics and dexa-

methasone. Another patient was admitted with fever (38.5°C) and deep venous thrombosis of the left inferior limb. Anticoagulation treatment was initiated, with the complete remission of the symptoms, without impact on pregnancy. The last patient of case series is a 41-year-old female with diabetes mellitus and obesity, with a 29-week pregnancy, and admitted with high fever and severe respiratory distress syndrome. Emergency caesarean section was performed due to clinical instability. Following discharge, the patients were asymptomatic. **Conclusions.** The risk of preterm delivery might be increased by COVID-19 infection. Thus, this case series emphasizes the important role of an effective multidisciplinary approach in severe cases with high risk of complications during pregnancy, requiring continuous monitoring, prolonged oxygen therapy, anticoagulation therapy and emergency delivery. However, future studies should be conducted to evaluate the long-term evolution of patients that presented SARS-CoV-2 infection during pregnancy.

Keywords: COVID-19, pregnancy, preterm delivery, respiratory distress syndrome

Preeclampsia – a myriad of miRNAs

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Preeclampsia (PE), a multisystem pregnancy-associated disease, has a major contribution to maternal morbidity and mortality worldwide, affecting approximately 10 million women worldwide. PE is thought to occur as a consequence of several factors, including defective spiral artery remodeling, placental oxidative stress, endothelial dysfunction and systemic inflammation. Recently, microRNAs (miRNAs) have been associated with the pathogenesis of PE and could play an important role in the development of PE. MicroRNAs are intensely expressed in the placenta during a normal pregnancy. Thus, analyzing miRNAs in the sera of PE patients could enrich knowledge about the pathophysiological mechanisms of this disease. Recent articles highlight the relationship between the aberrant expressions of several

miRNAs and negative pregnancy outcomes. A number of miRNAs, including miR-16, miR-29b, miR-34a, miR-155, miR-210 and miR-675, have been shown to decrease the proliferation and migration of trophoblasts. At the same time, recent studies have shown that miR-210 and miR-155 are constantly aberrantly expressed in women with PE. Thus, by elucidating the functional role of these modified miRNAs, important pathways involved in PE could be identified and potential predictive/diagnostic biomarkers could be brought to light, which could be used in PE. Moreover, enriching our knowledge about the role of miRNAs in pregnancy-associated diseases is necessary in order to develop therapeutic strategies in the future.

Keywords: pregnancy, preeclampsia, miRNA

The role of adipokines in uterine contractility

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Obesity is currently an important public health issue, registering a rapid increase in recent decades and affecting young people more and more frequently. The result is an increasing number of overweight or obese patients who reach reproductive age and become pregnant. Obesity is considered as an increased volume of adipose tissue which has well-known negative effects on multiple systems, but also on reproductive function. This piece of information led to the search for the existence of a connection between an increased Body Mass Index and the dysfunction of uterine contractility. Most cases of post-term pregnancy which usually require the induction of childbirth are observed in patients with increased Body Mass Index. The most important adipokines are represented by adiponectin, leptin, ghrelin, visfatin and apelin. Leptin has been demonstrated to act at smooth muscle fiber level in the vascular wall where it produces a decrease in calcium release from the sarcoplasmic reticulum, thus reduc-

ing the uterine contractile force. Leptin has an inhibitory effect on the frequency and amplitude of uterine contractions. Increased serum levels of leptin in obese women are involved in the inhibition of the apoptotic phenomenon involved in uterine involution. Visfatin exerts a more potent inhibitory effect compared to leptin upon uterine contractions. The inhibitory effect of ghrelin on uterine contractility involves a possible role in the regulation of myometrial activity. Apelin exerts a potent inhibitory effect on myometrial cells, causing a reduction in both the amplitude and the frequency of uterine contractions. Adipose tissue is currently regarded as a real endocrine organ, responsible for the production of bioactive polypeptides, adipocytokins. Adipokines exert modulating effects during pregnancy and there is evidence of their involvement in the pathophysiology of pregnancy-related complications.

Keywords: obesity, adipokines, uterine contractility, pregnancy, postterm

Maternal HIV infection – prematurity risk factor?

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HIV infection represent a worldwide health issue, with 38 million known patients and around 1.7 million new cases every year. Vertical transmission from mother to child represents 2% of the new cases. Also, studies of HIV pregnancies have shown a higher rate of complications such as prematurity and intrauterine growth restriction. This paper presents a study on 78 HIV pregnancies man-

aged in the "Prof. Dr. Panait Sîrbu" Clinical Hospital of Obstetrics and Gynecology, Bucharest, between 2018 and 2020. The main conclusion of the study is that the rate of prematurity was 11.53% (9 out of 78), lower than what the literature previously reported (24%), mainly due to a very strict management of ART and pregnancy monitoring.

Keywords: HIV, pregnancy, prematurity

Magnesium sulphate as a neuroprotective agent in imminent risk for preterm delivery – a challenge for obstetrical practice

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Introduction/objectives. Preterm birth remains an obstetrical and neonatal challenge, despite the increasing survival rates at early gestational ages, being the leading cause of perinatal mortality and morbidity in high-income countries. Even though the survival rate depends on endogenous and exogenous factors, the risk of developing medical and neurodevelopmental impairment remains high. One of the most important adverse neurological outcomes associated with preterm birth is cerebral palsy which describes a group of permanent disorders of the development of movement and posture disorders. Magnesium sulphate is a widely available and commonly used treatment for eclampsia in most of the countries; however, its use in obstetrical practice is being controversial. The aim of this paper is to present the beneficial role and to summarize the relevant evidence and practice recommendations of magnesium sulphate in neuroprotection in infants as antenatal treatment based on the current studies. **Methodology.** We selected the studies from Google Academic and PubMed databases and reviewed

recent articles from literature, aiming to evaluate the impact of magnesium sulphate as antenatal treatment in imminent risk for preterm delivery. Our research included all the publications during the period of January 2016 to May 2021 using the following Medical Subject Headings (MeSH): “magnesium sulphate”, “neuroprotection”, “preterm delivery”, “cerebral palsy”. **Results.** Most of the studies demonstrate significant results for antenatal magnesium sulphate reducing the risk of cerebral palsy. It is unclear whether gestational age is a key factor in the neuroprotective effect of the magnesium sulphate, but several studies suggested that the outcome of death or cerebral palsy was decreased when magnesium sulphate was administered before 34 weeks of pregnancy. **Conclusions.** The main limitation of this literature review consists of the lack of long-term follow-up of the infants. Future research should focus on the dosing and timing of magnesium sulphate administration, including the factors which could predict the possible adverse reactions to this treatment.

Keywords: preterm delivery, magnesium sulphate

Pregnancy and neuromyelitis optica spectrum disorder (NMOSD) – a rare but challenging interaction

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Neuromyelitis optica spectrum disorder (NMOSD) is an inflammatory central nervous system disorder affecting women of childbearing age. It is characterized by recurrent antibody-mediated inflammatory disorders targeting the optic nerve, spinal cord, area postrema of the medulla and hypothalamus. Aquaporin-4 (AQP4) is the most common target antigen in NMOSD. Disease relapses are common during pregnancy and postpartum. Younger patients, those with higher AQP4-ab titres and those with inadequate treatment are at higher risk for pregnancy-related relapses. Obstetric complications such as first-trimester miscarriage, preeclampsia and

preterm delivery complicate the course of pregnancy. However, it seems that the intensive treatment with corticosteroids and immunosuppressants can control most disease recurrence during pregnancy and the postpartum period. For severe cases, intravenous immunoglobulin, plasma exchange and immunoadsorption are employed, while the use of monoclonal antibodies during pregnancy is yet under debate. Since NMOSD cases are becoming more frequent worldwide, the management protocols are warranted to guide clinicians.

Keywords: neuromyelitis optica spectrum disorder, pregnancy, Aquaporin-4

Increase of the rates of premature birth and of caesarean section generated by COVID-19 in a tertiary maternity

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Introduction. In the context of the COVID-19 pandemic, there are many controversies about the influence of this disease on pregnancy. More and more data are being collected on the risk of premature birth and the risks associated with birth. **Purpose of the study.** This study aimed to analyze the changes in the profile and management of obstetric cases with SARS-CoV-2 infection. **Materials and method.** This retrospective study, in a single tertiary reference center maternity, included all consecutive cases admitted to the Bucur Maternity Hospital, "Sf. Ioan" Emergency Clinical Hospital (Bucharest, Romania), infected with SARS-CoV-2, focusing on the cases that gave birth. Data regarding the medical condition and birth were extracted from medical records. **Results and discussion.** During one-year period, starting from March 2020, a total of 314 cases

infected with SARS-CoV-2 were hospitalized in the clinic. According to clinical classification criteria, 53% of cases were asymptomatic, 38% were mild, 5% were medium and 4% of cases were severe. There were 267 births. The rate of premature births calculated for cases with COVID-19 was 17%, a significant increase compared to the national and previous maternity rate (RR=2.82; 95% CI; 1.54 to 5.1, $p<0.001$). The rate of caesarean births in COVID-19 cases reached 88%, which represented a significant increase compared to previous data (RR=1.46, 95% CI; 1.32 to 1.62, $p<0.0001$). **Conclusions.** COVID-19 causes a significant increase in the rate of premature births. Multifactorial negative influence on the birth leads to an increase of the caesarean section rate.

Keywords: premature birth, caesarean, COVID-19, SARS-CoV-2

Cervical cancer screening in Romania: it is time to change

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Cervical cancer is one of the most frequent female cancers in the world, mainly in low-resource countries. It is preventable through vaccination before starting sexual activity. The progression from infection with high-risk (HR) strains HPV to invasive cancer takes time, from 10 to 13 years, or even longer. During this long natural history of precancer phase, early detection and local treatment of the screened population could stop the progression to invasive cancer and would make this infectious neoplasia a preventable disease. The highest incidence of invasive cervical cancer and the highest death rate due to this disease are encountered in low-resource countries

with no preventive care programs. The key of success is an organized screening program that could dramatically reduce the incidence and mortality from cervical cancer through early detection and local treatment of early precancer lesions. Romania has the highest rate of mortality due to cervical cancer in Europe and has no national screening program to prevent cervical cancer. Opportunist screening is substantial in urban areas, but it does not cover the rural zones. Romania urgently needs a nationwide screening program to detect precursor lesions of cervical cancer.

Keywords: cervical cancer, screening

Sentinel lymph node biopsy in malignant pathology of vulva

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The use of sentinel lymph node biopsy (SLNB) in the management of vulvar cancers (squamous and melanoma) represents the gold standard. It reduces the extent of the surgical procedure, offering prognostic information and reducing morbidity by overtreatment. When diagnosed, 30% of the vulvar cancers have metastases to the inguinal-femoral lymph nodes and 10% to the pelvic nodes. Surgery of vulvar cancers (including inguinal-femoral lymph nodes dissection) is associated with a high risk of infectious morbidity and wound dehiscence. SLNB offers prognostic information. The survival rate at five years after surgery is 64.9% in case of positive SLN on H&E stain and 92.1% for IHC. In case

of negative SLN, the recurrence rate is 3.6%. Current standards recommend complete lymph node dissection (CLND) in case of positive SLNB. All these recommendations are valid for squamous cancers, but not for vulvar melanoma. Recent studies have shown that, in case of positive SLNB, there are not benefits of CLND at three years. Thus, CLND is no more the gold standard in case of positive SLN in case of vulvar melanoma. A critical point in practicing SLNB is the learning curve of surgeons. Therefore, together the trasor(s) used and a clear protocol of each institution will offer the best results in treating the vulvar cancers.

Keywords: sentinel lymph node, vulvar cancer

Does birth improve the outcome of pregnancies with mild or severe SARS-CoV-2 infection? Our experience

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Introduction. SARS-CoV-2 pandemic had a worldwide enormous impact in healthcare and influenced every one's life. Pregnant women were also affected and the symptomatology varied from mild to severe forms. **Materials and method.** We present the experience of our clinic regarding the impact of delivery in pregnant patients with moderate and severe clinical forms of COVID-19. **Results.** On the 19th of March 2020, the "Bucur" Maternity became a center of care exclusively for pregnant women with SARS-CoV-2 infection. During one-year period, we had a number of 585 hospitalized pregnant women. Among them, 172 gave birth, with a 88.7% percentage of caesarean sections.

The indications of delivery by caesarean section were in 34.5% due to SARS-CoV-2 symptoms that imposed premature delivery. We report severe cases of acute respiratory distress symptoms and coagulopathies. The patients with moderate and severe respiratory failure imposed orotracheal intubations in 12 cases. In our clinic, it was observed that women with moderate or severe COVID-19 symptoms had a favorable outcome after delivery. **Conclusions.** In all cases that required caesarean section for severe respiratory distress, the maternal status improved, with supportive intensive care measures after delivery.

Keywords: COVID-19, delivery, respiratory distress

The impact of SARS-CoV-2 pandemic on obstetrics-gynecology residents' education

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Introduction. The COVID-19 pandemic had a specific pattern in Romania regarding the hospitals' status. Thus, there were divided in COVID-19 hospitals and non-COVID-19 hospitals. The same distribution was made for maternities. This study aimed to identify the levels of education in obstetrics-gynecology residents from Romanian hospitals during the COVID-19 pandemic. **Materials and method.** We conducted a survey with a questionnaire completed by 85 obstetrics-gynecology residents aged between 25 and 32 years old, from COVID-19 and non-COVID-19 hospitals. **Results.** In both COVID-19 and non-COVID-19 hospitals, the level of education decreased during pandemic. The interviewed doctors agreed in a significant percentage of

65% that their practical part of preparation suffered, especially in COVID-19 hospitals, an answer approved by 97.5% of the responders. Residents considered that their decreased in preparation decreased due to the reorganization of work (67.6% for COVID-19 hospitals and 45.7% for non-COVID-19 hospitals). Overall, during this period, the responders answered that they received more theoretical information using online systems (78.5% in COVID-19 hospitals and 36.7% in non-COVID-19 hospitals). **Conclusions.** Among Romanian residents in obstetrics-gynecology, the COVID-19 pandemic was associated with significant impairment, especially in COVID-19 hospitals.

Keywords: residents, training, education, pandemic

The hysteroscopic management of abnormal uterine bleeding

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Objective. Abnormal uterine bleeding is one of the main problems of diagnosis and evaluation in gynecological pathology. The current objective is the evaluation of the uterine cavity in the presence of endometrial polyps by transvaginal ultrasonography, followed by diagnostic and interventional hysteroscopy. **Methods.** The study included 41 cases of metrorrhagia hospitalized in the gynecology department of the "Dr. Ioan Cantacuzino" Clinical Hospital, Bucharest, during a period of a pandemic year. Our patients, women aged between 20 and 71 years old, were evaluated in the first stage by clinical examination and transvaginal ultrasound. In 25 cases, there were endometrial polyps between 1 and 3 cm in size, with persistent symptoms such as bleeding. All patients agreed to the hysteroscopic removal procedure. Exploratory hysteroscopy with endometrial biopsy was performed in the other cases without polyps. **Results.**

This study evaluated one of the most common pathologies that cause abnormal uterine bleeding and the importance of proper evaluation of the uterine cavity for the accuracy of diagnosis and therapeutic management. All women underwent biopsy and had a histological result, with: hysteroscopy followed by curettage, biopsy by hysteroscopy or hysteroscopy and resectoscopy. After procedure, there were moderate bleeding and less pain. **Conclusions.** The availability of advanced hysteroscopic techniques has changed the management of abnormal uterine bleeding. Along with careful clinical examination and ultrasonography, hysteroscopy seems to be the best option for a correct evaluation of the uterine cavity and for the accuracy of samples for the pathology exam of the endometrium.

Keywords: abnormal uterine bleeding, hysteroscopy, endometrial polyp, endometrial biopsy

Adolescent pregnancy: complications and birth rates

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Introduction. Adolescent pregnancy has the potential to become a health issue in our country, especially since the birth rates in this category seem to be increasing. Teenagers who give birth are likely to have poor school performance and come from families with low socioeconomic status, a history of teen pregnancies, and low maternal education. Also, obstetrical literature describes low birth weight, perinatal death and preeclampsia associated with pregnancy and birth under the age of 18. The aim of this paper was to assess the pregnancy-associated risks as well as birth rates of adolescent pregnancies in Cluj-Na-

poca between 2019 and 2021. **Materials and method.** We reviewed data concerning pregnancy and births in adolescent mothers, aged 12 to 17 years old, who were admitted in our clinic from 2019 to 2021. Aside from age, we collected data regarding socioeconomic status, education, pregnancy-associated complications, way of delivery, parity and perinatal complications. **Conclusions.** Our findings strongly suggest that adolescent pregnancy is associated with environmental characteristics.

Keywords: adolescent pregnancy, adolescent birth, adolescent mother, teenage pregnancy

The usefulness of the SPIKES protocol in obstetrician-couple communication in case of detecting intrauterine fetal malformations

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Ultrasound technology has improved rapidly in the last years and its increased availability has made ultrasound detection of miscarriage, fetal abnormalities and of other pregnancy complications more common. The physicians' knowledge of how to give pregnancy-related bad news is becoming progressively important. A compassionate and informative method of breaking bad news, particular to the type of news, the anxiety level of the woman, the capacity to process and understand

the news for the woman, the physicians' comfort level and the resources that are available for emotional support are essential. Although studied in oncology, strategies for the communication of abnormal ultrasound information during pregnancy are scarce. We suggest a therapeutic approach to giving bad news during or after obstetrical ultrasound.

Keywords: prenatal ultrasound, fetal anomalies, obstetrician, bad news, protocol

Postoperative period management in patients after abdominal birth

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Introduction. The current problem of contemporary obstetric surgery is the increased risk of septic-purulent complications in the postoperative period, caused by the increased incidence of caesarean sections, especially those performed in emergency. **The aim of the study** is to identify conditions for sufficient healing of the uterus and to ensure the optimal conduct on the postoperative period. **Materials and method.** A retrospective study was performed on 88 patients, aged between 18 and 39 years old, who gave birth by urgent caesarean section, by transverse crescent hysterotomy in the lower segment, in the First Obstetrics Department of the Municipal Perinatalogical Center of Chișinău, Republic of Moldova, in 2020. **Results.** There were 36 repeated caesareans and 52 primary caesareans. The interventions took place under locoregional anesthesia in 78 cases (88.6%), and under endotracheal anesthesia in 10 cases (11.4%). The duration of operations varied from

30 minutes to 90 minutes. Hystero-graphy was performed with Vicryl® in 88.6% of cases and in 11.4% of cases with catgut. In the suturing technique, uninterrupted suturing prevailed in one layer (86.4% of cases). Preoperative antibiotic prophylaxis was performed in all patients (antibiotic therapy in 20.5% of cases). In all cases, early mobilization and enteral support with multimodal analgesia were practiced in the postoperative period. There were 10.2% of cases of complications in the postoperative period, in the form of postoperative hemorrhage, endometritis and suppuration of the postoperative wound. **Conclusions.** In order to reduce the incidence of postoperative complications in patients after abdominal births, it is necessary to reduce the duration of operations, standardize surgical technique and ensure an optimal postoperative management.

Keywords: caesarean section, postoperative complications

The influence of locoregional anesthesia on the evolution of the postoperative period

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Introduction. Locoregional anesthesia presents the method of choice (up to 90%) in contemporary surgical obstetrics, especially in connection with the increased incidence of caesarean operations. This ensures a favorable evolution of the postoperative period. **The aim of the study** was to analyze the influence of locoregional analgesia on the evolution of the postoperative period in patients after abdominal births. **Materials and method.** A retrospective study was performed on 88 patients, aged 18-39 years old, who gave birth by urgent caesarean section, by transverse crescent hysterotomy in the lower segment, in the First Obstetrics Department of the Municipal Perinatalogical Center of Chișinău, Republic of Moldova, in 2020. **Results.** There were 36 repeated caesareans and 52 primary caesareans. The interventions took place under locoregional anesthesia in 78 (88.6%)

cases (spinal in 64 cases and epidural in 14 cases), and under endotracheal anesthesia in 10 (11.4%) cases. The duration of operations varied from 30 minutes to 90 minutes. The presence in the ICU was between 12-36 hours, six patients needed hemotransfusion, and in all cases the early mobilization and the enteral support were performed with multimodal analgesia, in the postoperative period. Eighty-two patients presented moderate pain syndrome, while severe pain was present in only six patients. The duration of hospitalization varied between 25 and 72 hours. Three patients presented postanesthetic complications. **Conclusions.** Locoregional analgesia ensures a favorable evolution of the postoperative period in patients after caesarean section.

Keywords: caesarean section, locoregional anesthesia, postoperative period

Fetal shunt placement

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Fetal shunt placement involves the insertion of a shunt (tube) through the mother's abdomen into the uterus and into the fetus to drain fluid from a fluid filled space into the amniotic cavity. Vesicoamniotic shunt placement (used in posterior urethral valves syndrome) restores amniotic levels to normal by shunting fetal urine from the obstructed urinary system to the amniotic cavity, preventing lung hypoplasia and, thus, improving the neonatal survival. Reducing back pressure would also reduce nephron damage, improving postnatal renal function. Likewise, hydrocephalus due to severe ven-

triculomegaly causes permanent brain damage due to increased intracerebral pressure. Because of the obstruction of cerebrospinal fluid flow, CSF accumulates in the cerebral ventricles, causing increased intracerebral pressure, which leads to decreased blood flow, with neuronal damage. The intrauterine improvement of the increased intracerebral pressure by placing a ventriculoamniotic shunt can lead to a normal development of the brain, thereby preventing lifelong disability.

Keywords: fetal shunt placement, ventriculomegaly, posterior urethral valves syndrome

Twin-twin transfusion syndrome management

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STT occurs in monochorionic twin pregnancies due to the imbalance between the communicating vessels in the placenta, which leads to hypervolemia for one twin, with hypovolemia for the other. The management of twin-twin transfusion syndrome can be: expectant management, fetoscopic laser ablation of placental anastomoses, amnioreduction or selective fetal reduction. Fetoscopic laser ablation is a procedure by which a laser is inserted through the fetoscope and used to ablate the superficial blood vessels that cross the interamniotic membrane. Even though there are deep anastomoses, their afferent and efferent branches are superficial, so the coagulation of superficial vessels

should balance the interfetal transfusion. The complications of this technique are: premature birth, premature rupture of membranes, separation of membranes, rupture of interamniotic membranes, intraamniotic bleeding, fetal death, TAPS, persistent or recurrent TTTS, reversed TTTS. Quintero staging and correct clinical evaluation (significant respiratory distress, preterm contraction, cervix length) are essential for TTTS management. Untreated, 75% of stage I cases remain stable or regress, while perinatal loss for stages III-V is between 70% and 100%.

Keywords: twin-twin transfusion syndrome (TTTS), management

Indoor environmental quality assessment in a historical building – a maternity field-study in North-West Romania

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Maintaining sustainability and proper indoor environmental quality (IEQ) in historical buildings is a challenging and ongoing issue across Europe. Historical buildings, compared to old buildings, are more complicated to be restored or retrofitted due to their historic value, cultural heritage and restoration policies. Another delicate aspect of the retrofit process is the achievement of a satisfactory level of IEQ, which plays a key role in the occupants' comfort, productivity, health and well-being. Indoor environmental quality comprises factors such as thermal comfort, air quality, acoustics and lighting quality. The aim of the research is to evaluate the IEQ of a tertiary level maternity located in a historical building dating from

1902 in North-West Romania. Field measurements of environmental factors were performed in obstetrics wards accommodating postpartum patients and their newborns during the summer season. Compliance with the current standards regulations of the recorded indoor environmental parameters was assessed. The results of the field measurements confirm the environmental thermal comfort factor which reached a satisfactory level in the study population. Lighting quality fulfils the standard recommendations. The mean recorded values of the acoustics and air quality exceeds the threshold limits.

Keywords: indoor environmental quality, thermal comfort, air quality, lighting, acoustic, hospital, maternity

Cervical remodeling in preterm birth. Timing, diagnosis and actual therapeutic opportunities

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Preterm birth (PTB) is a continuing burden for medical staff all over the world, including Romania. Premature cervical remodeling (CR) depiction and correction represent a prophylactic and/or a therapeutic option. Cervix uteri – either a metabolic active organ beginning from pregnancy or a piece of resistance/"gatekeeper" for normal evolution – is a prime source of early information on PTB risks, cervical softness and length changes being previous to preterm/term uterine contractions. The four successive stages – "softening, ripening, dilation, repair" – are at term, and "softening, ripening, dilation" can be the very early signals for late miscarriage/PTB, preterm rupture of membranes, thus their earlier depiction permits better prevention strategies. Longitudinal ultrasound and techniques of shear wave speed (SWS) assess the cervical stiffness from 8-13 weeks, showing a constant fractional reduction (about 4% per week) in SWS with the increasing of gestational age, and also a spatial gradient in SWS along the length of the cervix (softest at the distal end). When SWS technique is associated to serial dynamic transvaginal ultrasound cervical length (CL) measurements (at 16-23 weeks), they can accurately depict by multiple observations the subtle

cervical-segmental remodeling: sludge, CL, internal os dilation with funneling, percentage, form – T/Y/V/U, depth and width, protuberant aspect of inferior pole membranes, fetal parts/umbilical cord in the cervix/vagina, and allow the assessment of residual CL – cervical closed part (canal length), when membranes of inferior pole are ruptured, or with aspect of hourglass, when vaginal blood loss is active. CL ≤ 25 mm is associated to intraamniotic inflammation, and when CL ≤ 15 mm at 22-30 weeks, intraamniotic infection risks are higher. Vaginal progesterone, from early pregnancy (6-8 weeks) continued to 37 weeks, cerclage and pessary are actual therapeutic opportunities for a mechanical support, being discussed preterm births – history/actual, and elective/emergency – initial phase/urgency, when cervical incompetence. The cerclage is invasive, modern pessary is noninvasive, when cerclage cannot be recommended/contraindicated. Multicenter retrospective/prospective, randomized studies and meta-analyses are discussing them separately either progesterone or pessary adjuvant to cerclage.

Keywords: cervical remodeling, preterm birth, timing, progesterone, pessary, cerclage

High-risk HPV involvement in post-therapeutic CIN2+/CIN3+ recurrence

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Contemporary medicine sustains HPV high risk (HPVhr) involvement in the development of extragenital (women and men) and lower anogenital cancer precursors, and their progression to invasive cancers. Even the studies are demonstrating the human clearance capacity; HPVhr is persistent after the current therapies for cervical intraepithelial neoplasia (CIN). The last systematic review (2018) presents two types of cervical HPV persistent infections: one that persists after the treatment for a previous lesion, and a new infection, post-therapy acquired. One discusses women's age, HPV status and genotype diagnosis, the procedure for treatment (conization, LLETZ versus cryotherapy, laser therapy, interferon alpha, therapeutic vaccination, and photodynamic therapy), searching data for vaccination efficacy, for the best clinical practice. Globally, it is described a gradual clearance after CIN treatment. In 2014, the median HPV persistence tended to decrease with increasing follow-up time, declining from 27% at three months after the treatment to 21% at six months, 15% at 12 months, and 10% at 24 months, compared to an old report, from 1994, of 100% persistence at 6 and

at 12 months. There are many arguments for HPVhr persistence and for the future risk of invasive cervical carcinoma in women treated for CIN2/3: many years since the intervention, women's age – higher risk in women above 50 years old, ethnicity, genetic variations in E6, E7 HPVhr oncoproteins, patients' viral quantification, the interactions between viral DNA and host DNA, as host DNA machinery permits/does not permit viral replication, infection's cofactors (other STDs – bacterial, including *Mycobacterium tuberculosis*, viral, including HIV and HVS; and general host polymicrobial infections – oral, digestive, respiratory, which reduce the patient immune competence), toxic factors (smoking), epigenetic changes (DNA methylation, progression from CIN2/3 to invasive carcinoma by epigenetic switch or by molecular switch), the long use of combined oral contraceptives (16 alpha-hydroxylation of estrogens from COC increases the transcription of HPVhr when HPVhr positive).

Keywords: HPVhr persistence, CIN2+/CIN3+, recurrence, viral quantification, DNA methylation, molecular switch

The place of colposcopy in modern gynecology. Indications, logistics and procedures

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Introduction. World Health Organization confirms an incidence of 570,000 new cases of cervical cancer diagnosed in 2018 and a total of 270,000 deaths from this cause in 2015. These data rank cervical cancer as the fourth leading cause of death among the female population, representing 6.6% of all cancers in women. Approximately 90% of these deaths occurred in developing countries, and 95-98% of these lesions are caused by HPV (human papillomavirus) infection, with cases of increased oncological potential. Due to the high incidence, it is important to discuss and summarize the diagnostic strategy for preinvasive cervical lesions. **Methodology.** The aim of this paper is to demonstrate that colposcopy, introduced in 1925, and which is developing before the great technological advances in modern gynecology, continues to be a valid technique without essential innovations of the original method described at the beginning of the last century. A starting point for this effort was to define the role of colposcopy as a test used in the pre-

vention of cervical cancer. As with any screening, triage or diagnostic procedure, the risks and benefits of a test must be assessed and weighed. Another major component of this effort was the revision and standardization of terminology for colposcopy practice. The aim was to simplify and clarify the reporting of colposcopy findings to improve absorption by colposcopists practicing in diverse work environments. **Results and conclusions.** Colposcopy is an important step in the initial evaluation of the abnormal results of the cervical cancer screening test, and colposcopy should be considered a routine technique in daily practice. Digital colposcopy aims to improve cervical cancer screening and the diagnostic process, shortening the period between the first medical interaction and the implementation of treatment, helping diagnose preneoplastic and neoplastic cervical lesions and reducing mortality.

Keywords: digital colposcopy, cervical cancer screening, guideline recommendations

Second victims in obstetrics – a literature review

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Medical errors are a serious public health problem. Every day, healthcare professionals practice their occupation within excessively complex healthcare situations and sudden patient outcomes. This paper aims to explore the knowledge about the phenomenon of the second victim in the obstetrics specialty. In 2000, the "second victim" was defined for the first time by Albert Wu in his description of the impact of errors on healthcare professionals by both personally and professionally, being a medical emergency equivalent to post-traumatic stress disorder. The term acknowledges the "first victim" to be the patients and, sometimes, the term "third victim" refers to the healthcare organization. The terminology has been criticized by patient advocacy communities for incorporating the word "victim", mainly as they use this term to refer only

to the patient. Medical errors, non-error patient safety events, near misses are common and can impact the well-being of the provider. This can lead to secondary traumatic stress such as emotional distress, sleep difficulties, anxiety, distress, PTSD, guilt/shame, fear, suicidality, and to negative effect on work performance such as absenteeism, reduced confidence and/or potential secondary medical errors. The recent recognition and discussion on the phenomenon of the second victim have become a popular research subject. This review intended to study not only the phenomenon of second victim in general medical care, but to also to concentrate on obstetrical care where the expectation of perfection may be argued to be greater.

Keywords: health personal, second victim, obstetric care

Current clinical and therapeutic challenges in HELLP syndrome

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Introduction. HELLP syndrome is described as hemolysis, elevated liver enzymes and low platelets, and it has been historically classified as a complication or progression of severe preeclampsia. **Materials and method.** We reviewed the recent reports from international data bases regarding the actual therapies and recommendations about HELLP syndrome. **Results.** The medical publications from the last years report that there is no direct relation between severe arterial hypertension and HELLP syndrome. This syndrome is a unique entity that may occur in normotensive patients. The genetic analysis of the inheritability for preeclampsia and/or HELLP syndrome in pregnancy has also been explored. The results present both genetic and immunological factors that have a determinant role in pathogenesis. The differential diagnoses for HELLP include

acute fatty liver of pregnancy, purpura, antiphospholipid syndrome, thrombotic thrombocytopenic and hemolytic uremic syndrome. There is not any current treatment for HELLP, but the mainstay of therapeutic approach involves maternal stabilization and timely delivery. Different treatment strategies have been attempted to help decrease the morbidity and mortality, such as the maternal use of corticosteroids. However, the studies present controversies regarding the maternal use of corticosteroids, plasma exchange, and low molecular weight heparin for the treatment of HELLP. **Conclusions.** The pathology of HELLP syndrome is far to be completely described and the treatment represents a challenge for physicians. The discussions about the topic are always with benefits in order to improve the patients' outcome.

Keywords: HELLP, arterial hypertension, treatment

The pathological characteristics of myometrium in uterine atonia – case report

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Introduction. Postpartum hemorrhage represents the leading cause of maternal mortality worldwide. Uterine atonia is one of the main causes and represents a therapeutic challenge for obstetricians. **Case report.** We report the case of a 34-year-old patient who was admitted in our clinic at 41 weeks of gestation for fetal monitoring. From her medical history, we mention an abortion with twin pregnancy at 18 weeks of gestation. The actual pregnancy was monitored according to our national recommendations and had no pathological event. The patient had no uterine contraction during pregnancy, not even at term. Due to unfavorable Bishop score at 41 weeks of gestations, the caesarean section was performed and a 4100 g female fetus with 10 APGAR score was born. The caesarean section developed with no significant hemorrhagic event (450

ml blood loss). The uterus retracted with 100 mcg of carbetocin. At three hours after birth, a vaginal severe hemorrhage occurred, with 2000 ml blood loss and the postpartum uterine atonia was diagnosed. It imposed explorative laparotomy. The medical and surgical techniques of uterine preservation (B-Lynch sutures) failed and supracervical hysterectomy was performed. The maternal evolution was favorable, with discharge four days after delivery. The pathological exam of the uterus revealed important uterine edema and atypical myometrial cells. **Conclusions.** Uterine atonia is a condition that is difficult to be anticipated, but it may be considered in patient with no uterine contractility near term, fetal macrosomia and significant myometrial architecture anomalies.

Keywords: uterine atonia, hemorrhage, edema

Management challenges of psoriasis in pregnancy

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Psoriasis is an immune-mediated inflammatory disease with genetic predisposition, manifested as skin and joints features. There are many challenges in the management of psoriasis in pregnancy due to the interaction with fetomaternal immune system barrier, psoriasis comorbidities and limited options, and conflicting and limited data regarding drugs used in pregnancy. The immunology of pregnancy is unique and characterized by maternal immune response changes from the inflammatory Th1 cytokine pattern to the Th2 pattern. These cytokines are critical for the adaptive immune responses during pregnancy. The dysfunction of T-cell subsets of Th1 cells is responsible for psoriasis lesions and the resulting aberrant release of the corresponding cytokines, including IFN- γ , tumor necrosis factor (TNF)- α , IL-23 and IL-17 family members. The immunology of pregnancy is related to CD4⁺ T cell cytokines, and T cell responses in autoimmune disease are influenced by pregnancy. In more than 40% of reported

cases, psoriatic skin and joints lesions improved during pregnancy, in 20% of cases the evolution worsened, and 21% to 56% remained stable. Psoriasis is associated with comorbidities such as diabetes mellitus, metabolic syndrome, depression and an increased risk of alcohol and tobacco intake; this can negatively influence pregnancy evolution and outcomes. The classical treatment regimens for psoriasis in pregnancy include low-doses of topical and systemic therapies and, recently, human monoclonal antibodies for moderate to severe forms. Secukinumab and ustekinumab are becoming interesting options to the classical regimen, despite the high costs and the limited experience during pregnancy. The first-line therapy used for women of childbearing age remains certolizumab pegol, a PEGylated, Fc-free anti-TNF agent that does not cross the placenta. In conclusion, moderate to severe psoriasis forms during pregnancy remain a very high risk to manage.

Keywords: psoriasis, pregnancy, immune response

Epidemiology of clavicle fracture at birth in Romania

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A clavicle fracture is the most common unpredictable bone trauma at birth; most cases occur following uncomplicated vaginal deliveries. The reported incidence is 0.2-2.9% of births, mostly diagnosed at a distance from childbirth. This trauma at birth can be seen by parents as a medical error of birth care, especially when diagnosed at a distance from hospitalization. The purpose of this poster is to present Romanian statistics in the last two years from the perspective of the obstetrician and neonatologist. In 2018, 358 cases of clavicle fracture were reported for 163,490 births and, in 2019, 308 cases of clavicle fractures for 1,585,20 births, with an incidence of 0.19-0.21% of births, well below the one reported by other countries. A clavicle fracture in a newborn can be difficult to diagnose because it is often asymptomatic and can also be confused with other common diagnoses, such as brachial plexus palsy, congenital pseudoarthrosis and congenital muscular torticollis.

The common causes are shoulder dystocia or breech presentation deliveries, when the arms of the baby are extended. Evidence from retrospective studies demonstrates that excessive weight gain by mother and labor induction may increase the risk of clavicular fracture with brachial plexus palsy lesions. A greenwood fracture or an incomplete fracture may be asymptomatic at birth. The first clinical sign may be callus formation 7 to 10 days after birth. The clinical sign often identified shortly after birth is edema in the supraclavicular fossa, with underlying crackles in general. The palpation of the clavicle should always be repeated on the discharge examination, as some fractures may be more obvious on the second or the third day of life.

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Keywords: clavicle fracture, vaginal delivery, trauma

Placental pathologic changes in gestational diabetes mellitus and implications for fetal outcome

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The placenta is a transitory organ which supports intrauterine life with nutritional, endocrine and immunologic functions, whose adequate functioning is necessary for the development of the *fetus in vitro*, but it also impacts the biochemical mechanisms in the long run. Pathologies developed during pregnancy, such as gestational diabetes mellitus, influence the function and structural aspect of the placenta which in turn presents a number of alterations. The aim of our research was to compare the histopathological findings of placenta and umbilical cord between patients diagnosed with gestational diabetes mellitus (GDM) and physiological pregnancies (non-GDM). **Materials and method.** In this retrospective study, 110 patients were included (29 GDM and 81 non-GDM). GDM was confirmed at 24-28 weeks of gestation, using oral glucose tolerance test. We analyzed the demographic characteristics of the patients and the histologic and gross morphology findings of placentas. **Results.** The mean age at birth of GDM group was 31.38 years old, compared to 29.7 years old for non-GDM ($p=0.06$), and the mean gestational age at

birth was 37.41 weeks of gestation (WG) for GDM, compared to 38.5 WG in the non-GDM group ($p=0.006983$). The histological evaluation revealed significant larger placentas in the GDM group, with more inter- and perivillous fibrinoid ($p<0.0001$), intervillous thrombus ($p=0.0012$; 6.58-2060.72; OR=116.42), increase villous maturation ($p<0.0001$; 32.01-1048.92), chorangiosis ($p<0.0069$; 2.988-988.021), villous ischemia ($p<0.0001$; 12.0136-806.971), villous hypoplasia ($p<0.0001$; 32.01-10848.917), and hyperspiral cord ($p<0.00001$). Regarding calcifications, placental hematomas, placental infarction and chorioamnionitis, we found no relationship between their presence and gestational diabetes. **Conclusions.** This study highlights a series of macroscopic and microscopic placental changes in patients diagnosed with GDM: increased inter- and perivillous fibrinoid, important intervillous thrombus, accelerated villous maturation, chorangiosis, villous ischemia and hypoplasia and hyperspiral cord.

Keywords: placenta, gestational diabetes mellitus, fetal outcome

Update of the epidemiology and ultrasound diagnosis criteria able to predict before delivery *placenta accreta* spectrum disorders

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Introduction. The increasing incidence of abnormal insertion of placenta justifies the need to highlight which are the frequent factors involved in this pathology and to improve the methods able to sustain a prenatal diagnosis of abnormal placenta spectrum disorders, so useful to avoid a catastrophic postpartum hemorrhage. **Material and method.** The study was conceived by analysis of articles and clinical guidelines published online concerning the *placenta accreta* spectrum disorders (PAS) in the last five years. The study allows to clarify the terms that define PAS, the factors that frequently generate this pathology, and the ultrasonographic criteria able to support PAS diagnosis. **Results.** The most proper terminology remains the one launched by Luke (1966), because it includes all three significant criteria, such as the depth of the myometrial invasion of the villi, the lateral extension of the *placenta accreta*, and the variable degrees of myometrial invasion in the same placenta. Among the factors most frequently involved, there are repeated caesarean sections, uterine curettages and manual extraction of the placenta. The

features of ultrasonographic criteria were the loss of hypoechogenic space, placental abnormal lacunae, loss or disruption of bladder wall continuity, thinning of the thickness of the myometrium, bulging of the placenta, focal placental exophytic, color Doppler changes such as uterovesical hypervascularization, subplacental hypervascularization, "bridging vessels" and Doppler intramiometrial vessels with high velocimetry oriented to the placental lacuna. The three-dimensional (3D) power Doppler sonography shows placental hypervascularization, vessels with a twisted path and different caliber. MRI is recommended to validate if a posterior placenta is *accreta* too. **Conclusions.** Women with risk factors for PAS should be screened by US at 11-14 weeks of pregnancy. The US criteria for antenatal diagnosis of SAP must be checked in the second trimester of pregnancy to avoid a catastrophic postpartum hemorrhage associated with disseminated intravascular coagulation syndrome.

Keywords: *placenta accreta* spectrum disorders, ultrasound, antenatal diagnosis, postpartum hemorrhage

The impact of SARS-CoV-2 infection on fluid-coagulant status of pregnant women

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Introduction. Physiological changes during pregnancy have an essential role on the cardiovascular function, the respiratory system and coagulation. There has been a rapid increase in publications about COVID-19 and pregnancy. The purpose of our research was to highlight the impact of SARS-CoV-2 infection on pregnancy and on the fluid-coagulant status. **Materials and method.** We searched the international databases using keywords such as "pregnancy", "COVID-19" and "coagulopathy". There were extracted only the publications about the implications of SARS-CoV-2 in pregnancy-associated coagulopathies. **Results.** The initial research revealed 3120 reports about pregnancy and COVID-19. Among them, the number of articles about the impact of SARS-CoV-2 in pregnancy fluid-coagulant status is reduced. There are

one meta-analysis and five case reports. The other studies about pregnancy and SARS-CoV-2 infection also present some patterns about this viral infection on pregnancy hemostasis. It was identified that coagulopathy or thrombotic complications may develop. Hypofibrinogenemia (compared to normal pregnancy levels) was identified in three cases. There is few evidence in the literature regarding platelet count in COVID-19 affected pregnancies. **Conclusions.** There is a lack of studies regarding the impact of SARS-CoV-2 infection in pregnancy fluid-coagulant status. The literature is based on case reports, but the clinical features presented are substantial. Further studies are required regarding the subject.

Keywords: SARS-CoV-2, fluid-coagulant status, pregnancy

Short-term disease recurrence after loop electrosurgical excision procedure (LEEP) – retrospective study

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Introduction. Cervical cancer screening aims to identify cervical dysplastic lesions for the subsequent excision to prevent invasive disease. The surveillance of women with cervical dysplasia after treatment is performed by colposcopy or cervical cytology correlated with human papillomavirus (HPV) testing. The treatment of preinvasive disease is performed using loop electrosurgical excision (LEEP). The patients are typically followed-up for 12 months after the excision of the lesion. This study aims to quantify the prevalence of different types of cervical injuries in the region of Moldova, as well as the risk of recurrence following surgical excision. **Materials and method.** We retrospectively analyzed 308 patients (mean age: 36 years old) with pathologic Pap smear who were treated with LEEP, between 2010 and 2020. Post-LEEP follow-up was performed by Pap smear and colposcopy. Descriptive and analytic statistics were performed. **Results.** Of the 308 patients, 88.63% met the inclusion criteria. After Pap smear, high-risk lesions were found in 34.34% of the patients and low-risk lesions were identified in 50.97%

of them. HPV was performed in only 36% of cases. The anatomopathological results highlighted the following types of lesions: condyloma (1.62%), CIN 1 (24.68%), CIN 2 (16.23%), CIN 3 (10.39%), CIS (3.25%), microinvasive carcinoma (0.97%), invasive carcinoma (0.65%), and benign lesions (25.65%). During follow-up, 24 patients were lost from the records, and the control was performed on 100 patients. There were 41 cures, 52 recurrences and seven residual injuries. The percentage of discrepancies between the results obtained by screening and those resulting from the pathological examination was 20.77%. **Conclusions.** Over 50% of the lesions identified at screening were low risk. There is an increased percentage of recurrences following LEEP, especially in those with HPV-positive status. A significant predictive factor for persistent/recurrent disease was represented by margin and HPV status. A subsequent control and even a new excision are necessary to prevent the invasive disease.

Keywords: cervical dysplasia, follow-up, human papillomavirus, loop electrosurgical excision procedure

Magnesium sulphate and fetal neuroprotection – when, how, why and why not?

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Preterm delivery is strongly associated with neurological impairments, such as cerebral palsy (CP), motor dysfunction, blindness, developmental delay and intellectual impairment. Antenatal administration of magnesium sulfate ($MgSO_4$) has become a valuable approach of the neuroprotective strategy for preterm births. $MgSO_4$ can prevent excitotoxicity via N-methyl-D-aspartic acid (NMDA) receptor antagonistic action and has an anti-inflammatory effect. There is still no international consensus on the dosage, time of administration and the need to repeat $MgSO_4$ treatment. However, most studies report benefits for $\leq 31+6$ weeks of gestation (GW) and imminent preterm birth, defined as active labor with ≥ 4 cm cervical dilation with either failure or contraindication to tocolysis, ≥ 4 cm dilatation with documented progressive change in cervical dilation, preterm pre-labor rupture of membranes with active labor, and for planned delivery for fetal or maternal indications. $MgSO_4$ is recommended

in a loading dose of 4 g intravenously (i.v.) for 30 minutes, followed by a 1 g/hour i.v. maintenance infusion for maximum 24 hours. It has been shown a significantly reduced rate of moderate and severe CP for the premature receiving $MgSO_4$, but also a lower rate of motor dysfunction and a lower systemic vascular resistance and higher myocardial function in preterm infants born before 29 WG. On the other hand, several side effects have been reported and should be closely monitored. Maternal side effects include hypotension, tachycardia, respiratory depression, drowsiness, headache and muscle weakness. One trial reported a higher incidence of spontaneous intestinal perforation among extremely low birth weight infants. In conclusion, antenatal $MgSO_4$ administration is a first step in preventing neurological damage, but further studies are mandatory to standardize its use.

Keywords: magnesium sulphate, neuroprotection, cerebral palsy

Therapeutic solutions for infertile “poor responder” patients

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Infertile “poor responders” represent a consistent group of patients addressing *in vitro* fertilization (IVF) programs. Despite tremendous efforts including the use of various ovarian stimulation and hypophysis control regimens, incremental gonadotropins doses or new drug molecules, IVF results are frustrating for both doctors and patients. This is mainly due to the plethora of factors that may be responsible for this type of infertility entity,

starting with intrinsic oocyte anomalies, problems concerning early phases of folliculogenesis or gonadotropin receptor dysfunctions. Attempts for a tailored approach of the different subtypes of poor responder patients resulted in the elaboration of the Poseidon criteria. New patient stratification and management strategies were developed, but the results are still under evaluation.

Keywords: poor responders, IVF, oocytes, gonadotropins

Ultrasound aspects of uterine scars after caesarean section in patients with retroverted uterus versus patients with anteverted uterus

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The study was performed at the Santerra Medical Center, Constanța, on two groups of patients. The first group included 100 pregnant patients with ultrasound-determined anteverted uterus before pregnancy, and the second group included 50 pregnant patients with ultrasound-determined retroverted uterus, before pregnancy. All patients studied were primiparous, who gave birth by caesarean section performed between 38 and 40 weeks of pregnancy (full term). Ultrasound aspects of uterine

scars at six weeks after caesarean section were analyzed (i.e., scar dimensions, presence of “L sign”). The incidence of larger scars (i.e., over 1.2 cm) and the presence of the L sign were significantly increased in patients from the second group. Uterine retroversion, through the mechanical effect it exerts on the post-caesarean hystero-graphy sheet, can cause a slower and sometimes even vicious scarring.

Keywords: caesarean section, primiparous, transvaginal ultrasound

Incidence of premature birth threat in patients with fibromatous uterus

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The study was performed in Clinic II of Obstetrics-Gynecology of the “Sf. Apostol Andrei” Emergency County Clinical Hospital, Constanța, on a group of 120 patients with uterine fibroids associated with pregnancy. Patients diagnosed with uterine fibroids after 24 weeks of gestational age were included in the study. The dimensions of the fibromatous nodules varied between 2 and 5 cm. All patients received progesterone therapy with intravaginal administration, 400 mg/day, in two doses, at 12 hours, until the gestational age of 36 weeks. The incidence of premature births in the studied group ver-

sus the general population was analyzed. No significant variations were found between the incidence within the studied group and the incidence in the general population. More than half of the patients in the study group complained of unexplained pelvic pain, uncorrelated with painful uterine contractions. It appears that progesterone given to patients with uterine fibroids associated with pregnancy helps to significantly reduce the incidence of preterm birth.

Keywords: premature birth, uterine fibroids, pregnancy

The impact of autoimmune, inflammatory and metabolic disorders on placental inflammation and perinatal outcomes

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Favorable pregnancy outcomes depend on optimal regulation of the maternal-fetal interface (MFI). Placental inflammation (PI) and impaired fetal perfusion are most likely attributable to the destruction of cellular components of the intervillous space (superficial decidual epithelium, endothelium of spiral veins, syncytiotrophoblasts of chorionic villi, and endovascular trophoblasts covering the tips of spiral arteries, among others) by various molecules/agents. The pathophysiological mechanisms that cause MFI injury result in PI, which contributes to obstetric complications and to poor pregnancy outcomes. Injury to cellular components of the MFI due to immune-mediated complexes and/or toxic metabolic components leads to PI. Cellular debris from the destruction of syncytiotrophoblasts and endovascular trophoblasts contains paternal antigens that may stimulate the maternal innate and humoral immune systems. Such processes alter the

immunologic balance of MFI and cause PI. Infectious, toxic, metabolic and immunological inflammation may be the underlying factors behind PI. Methylenetetrahydrofolate reductase polymorphisms, autoimmune/inflammatory diseases, metabolic disorders and hereditary thrombophilia are the most common risk factors behind the development of PI. There are recent publications in the literature indicating the impact of the etiology-based approach for preventing PI-associated obstetric complications and poor pregnancy outcomes. Lifestyle modifications, specific anti-inflammatory medications and strict antenatal follow-up protocols seem to reduce PI. In conclusion, the appropriate management of maternal risk factors and preventing PI should be the main targets of maternal-fetal medicine specialists.

Keywords: maternal-fetal interface, obstetric complications, placental inflammation

Conotruncal congenital heart diseases: prenatal diagnosis and management

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Conotruncal malformations constitute an important part of congenital heart diseases. They include anatomic anomalies of both the infundibulum (conus arteriosus) and the great arteries (truncus arteriosus). Tetralogy of Fallot, *truncus arteriosus*, transposition of the great arteries and double outlet right ventricle are the most common conotruncal malformations in daily clinical practice. The accurate diagnosis and the appropriate antenatal management of these anomalies are vital to achieving favorable outcomes. With developing imaging technologies and increasing knowledge in the field of maternal-fetal medicine, it may be possible to diagnose these anomalies at relatively earlier weeks of gestation. If they are diagnosed prenatally, patient counseling by a multidisciplinary

team can be possible and necessary procedures can be implemented. The investigation of chromosomal/structural abnormalities, planning the delivery in a tertiary healthcare facility, organizing the neonatology team, arranging necessary cardiovascular interventions promptly and offering the option for termination of pregnancy in severe cases can be organized by maternal-fetal medicine centers. Moreover, the underdiagnosis of these anomalies may lead to medicolegal problems. For this reason, physicians dealing with obstetrics should be meticulous about the evaluation of the fetal heart and should carry out the necessary consultations at the slightest suspicion.

Keywords: congenital heart diseases, conotruncal malformations, prenatal diagnosis

Management of gastroesophageal reflux during pregnancy and lactation

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The clinical picture of gastroesophageal reflux disease (GERD) is relatively typical, with regurgitation and/or sensation of retrosternal burning, continuous or discontinuous. GERD is frequently met in pregnancy. In Romania (without national statistics), the prevalence estimate is 30-50%; globally, between two and eight in 10 women have transient GERD-specific symptoms. A small percentage of pregnant patients with GERD are treated appropriately, a context in which their quality of life is negatively affected. Some patients receive acid suppression therapy with proton pump inhibitors (PPIs). Despite treatment, some patients continue to experience reflux symptoms. The presentation reviews therapeutic options and current developments in GERD from pregnancy. Thus, international guidelines rec-

ommend changing your lifestyle as a first option. In case of persistent symptoms, the use of non-systemic drugs, such as antacids, is recommended as a first resort. Other therapeutic options, in the absence of a favorable result, are H2 receptor antagonists and, subsequently, PPIs – with significant adverse reactions for the long-term administration. Taking into account the degree of transplacental transport of the active substance and the teratogenic risk to the fetus, depending on the patient's needs, drug combinations are also considered in order to obtain the fastest effect, the longest duration of action and minimal effects on pregnancy and the fetus.

Keywords: gastroesophageal reflux, pregnancy, treatment

Vaginal senescence in menopause

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Menopause, natural or induced, medically or as a consequence of diseases directly related to the endocrine system, affects the lives of patients, from the physical level to psychoemotional implications. This period has become a challenge for medicine, in its efforts to ensure the health, physical and emotional well-being of women with a growing life expectancy. The paper addresses the effect of hormone deficiency characteristic of the period of perimenopause and menopause on the vagina and the influence on sexuality, with a major impact on the physical and emotional

health of women. The presentation also summarizes the recommendations of the clinical practice guidelines for the control of this specific pathology, as well as the benefits and risks of the recommended therapies, related to the existing or aggravated chronic pathology of menopause. Moreover, psychotherapeutic connotations should be taken into account in the management of the transition from reproductive age to senescence and beyond.

Keywords: menopause, vaginal senescence, management

Is there an endometrium-ovarian cancer link?

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Endometriosis is a benign condition defined by the presence of endometrial tissue outside the uterine cavity. This condition is considered a risk factor for ovarian cancer, despite the fact that its presence is a good prognostic factor. The pathology is also a benign estrogen-dependent entity, which has, however, common characteristics with ovarian cancer, such as invasive growth, hormonal dependence and recurrence. The aim of our study was to identify the possible link between endometriosis and associated ovarian cancer. Our research was based on a retrospective analysis of 65 cases of endometriosis hospitalized and operated on for a period of five years, in the Obstetrics-Gynecology I Department of the "Sf. Apostol Andrei" County Emergency Clinical Hospital, Constanța, Romania. Of this group, five patients also had associated ovarian cancer – endometrioid type, high-grade serous type and clear cell carcinoma. These five cases were studied clinically and immunohistochemically (immu-

nomarkers CD10, CD34, Ki67, p53, p16, WT1, estrogen and progesterone receptors). Regarding the low number of cases of endometriosis-associated ovarian cancer, we found no similarities between endometriosis and each type of associated ovarian cancer (low- and high-grade ovarian cancer, respectively). We have observed, on the other hand, elevated levels of estrogen receptors in endometriosis associated with high-grade carcinomas, which may imply a specific role that these receptors play in the carcinogenesis of high-grade carcinomas associated with endometriosis. This analysis can help open the way for patients with endometriosis to identify a risk marker for the development of ovarian cancer, and thus it can lead to the reconsideration of the monitoring of those patients, as well as for targeted therapy.

Keywords: endometriosis, ovarian cancer, immunohistochemistry, CD34, Ki67, p53, estrogen and progesterone receptors, WT1

Correlation between genital prolapse and obesity

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Introduction. Obesity has wide ranging effects on the whole body. The pressure of too much weight can weaken the pelvic floor, resulting in pelvic organs prolapse. **Materials and method.** We made a study on 28 cases with genital prolapse and obesity, admitted in the First Clinic of Gynecology Iași for surgery during the COVID-19 pandemic period. The grade of prolapse and the compartment which descend was correlated with grade of obesity appreciated by Body Mass Index (BMI). We also measured waist circumference, waist-to-hip ratio and the skinfold thickness in three sites – over the triceps in the back of the arm, subscapular and suprailiac. **Results.** The average age was 62.89±8.65 years old (limits: 46-83 years old). Regarding patients with uterine prolapse, 13 presented grade III obesity, 84.6% had grade I obesity and 15.4% had grade II obesity (p=0.734). Ninety percent of the 20 women with cystocele had grade III obesity and 88.9% of them had grade I obesity (p=0.209). Only seven cases presented grade II rectocele and 85.7% had grade I obesity. Twenty-five percent of cases had simultaneously cen-

tral and anterior compartment descent. Three cases were recurrent. As comorbidities caused by obesity, 19 cases had high blood pressure and only seven cases had diabetes mellitus. It should be noted that only 21.4% of patients had ≥4 births. The weight of the baby at delivery was ≥4000 g for 53.3% of the ones with uterine prolapse (p=0.259), 30% of those with cystocele (p=0.067), and 47.6% of those with rectocele (p=0.129). The types of surgery were hysterectomy with bilateral adnexectomy associated with sacropexy in 11 cases or colposuspension in two cases, and colporraphy was performed in 15 cases. **Conclusions.** The demographic characteristics of age, the reproductive status, the number of births and obesity assessment parameters did not differ significantly depending on the type of prolapse. The limit of the present study is represented by the lack of inclusion of patients with incipient degrees of prolapse and obesity, who are treated conservatively.

Keywords: pelvic organ prolapse, obesity, obesity assessment

Clinical and prognostic implications regarding the molecular classification of invasive breast carcinoma

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Introduction. Invasive breast carcinoma is a heterogeneous group of tumors, including a wide spectrum of morphological variants and molecular alterations with various clinical outcomes in response to different treatment modalities. Although long suspected, prognostic heterogeneity has been molecularly confirmed with the discovery of five intrinsic subtypes. "HER2-low" has been recently described as a novel category of HER2(-) tumors that test IHC 1+ or 2+ and FISH negative, which appear to gain some benefit in clinical trials from HER2-antibody-drug conjugates. **Materials and method.** A literature review has been carried out using the following keywords: "invasive breast cancer", "molecular classification" and "prognosis". Narrative description of the data has been obtained from the selected articles. **Results.** Prognostic gene expression profiles are now commercially available (Oncotype DX, MammaPrint, PAM 50-ROR, EndoPredict, Breast Cancer Index), but the costs, the complexity and the lack of comprehensive data supporting a predictive value for adjuvant therapy hampered their wide adoption in daily practice. Although initially aimed at replacing the standard work-up of immunohistochemi-

cal assessment, it is now increasingly recognized that both methods largely overlap and are most applicable for ER(+), HER2(-) carcinomas. Standard immunohistochemical work-up established by the St. Gallen consensus is cheaper and easier to use and therefore remains the gold standard in estimating the risk for breast cancer relapse and in guiding the clinical decisions regarding efficacy from endocrine, chemotherapy or targeted therapy. **Conclusions.** Studies show that a combination of clinical and pathological features has more prognostic value than each feature alone. Numerous methods of weighting the value of each feature and creating an overall estimate prognosis have been developed, most being relevant for ER(+) cancers: Nottingham Prognostic Index, IHC4 Score, Magee Equations, Flanagan Prognostic Index, Gerads Prognostic Index and Eden Prognostic Index. The early diagnosis and the personalized treatments synergistically contribute to the improvement of prognosis, therefore screening programs maintain a significant role in the era of precision medicine.

Keywords: molecular classification, invasive breast carcinoma, prognosis

Current concepts and etiopathogenic considerations in the diagnosis of pelvic serous tumors

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Introduction. High-grade serous carcinoma is one of the most common types of ovarian carcinoma. Based on prevalence and mortality, serous carcinoma is the most important type of ovarian cancer, representing most of the primitive ovarian carcinomas with a negative prognosis. New hypothesis regarding the pathogenesis of ovarian cancer has recently been presented which helps to explain the problems in understanding the development and diverse morphology of these neoplasms. These findings are based on clinicopathologic and molecular genetic studies. **Materials and method.** A review of the literature on the current concepts and etiopathogenic considerations in the diagnosis of pelvic serous tumors has been carried out. The strategy involved the use of keywords such as "ovarian cancer", "low-grade serous carcinoma", "high-grade serous carcinomas" and "molecular pathogenesis", with the selection of articles and the narrative description of the data obtained. **Results.** The development of a dualist model based on clinicopathologic and molecular genetic studies divides all histologic types of epithelial

ovarian carcinomas into two categories: type I and type II. Low grade serous tumors – type I – are most often indolent, diagnosed in stage I, they develop from serous borderline tumors and are genetically stable, being characterized by specific mutations such as KRAS, BRAF and ERBB2, and rarely TP53. High grade serous carcinomas – type II – are diagnosed in advanced stages, are aggressive and develop from intraepithelial carcinomas of the fallopian tube. They have a very high incidence of TP53 mutation and demonstrate marked chromosomal aberrations that remain relatively stable throughout the disease. **Conclusions.** The new hypothesis for the pathogenesis of ovarian serous cancer based on a dualist model and the idea that most of them originate outside the ovary help in organizing the epithelial ovarian neoplasms and lead to the development of new and improved models in preventions, screening and treatment of this affliction.

Keywords: ovarian cancer, low grade serous carcinoma, high grade serous carcinomas, molecular pathogenesis

Multigene NGS panels and cancer susceptibility syndromes – a study report

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Introduction. Since the beginning of the 1990s, with the discovery of the first "cancer genes", numerous genetic factors have been identified through a great number of studies to be associated with the susceptibility for hereditary cancers. Hundreds of genes have been detected, with thousands of variants involved in the development of the disease. Next Generation Sequencing (NGS) technology has been the most important tool in cancer research and cancer diagnosis as well, during the past decades. Most of the laboratories worldwide use multigene NGS panels to identify the genetic causes or the genetic predisposition for cancer. **Materials and method.** NGS sequencing on an Illumina platform has been performed using multigene panels for the different types of cancer. The study included individuals tested during February-September 2021. **Results.** Apart from the BRCA1 and BRCA2 genes mutations, identified in the greater majority of cases, pathogenic variants in other genes, such

as PALB2, CHEK2, MSH6, MLH1, ATM, NF1 etc., have been detected. The most frequent pathology identified in our cohort was breast cancer, followed by colorectal and ovarian cancers. Other types of cancer reported in these individuals were melanoma, cerebral tumors, pancreatic cancer, endocrine tumors, renal cancer, gastrointestinal tumors and prostate cancer. **Conclusions.** NGS panels are the test of choice for the diagnosis of the disease in hereditary cancer patients and for identifying the risk for developing the disease in healthy individuals. Both pre-testing and post-testing genetic counseling are of great importance for the selection of patients for genetic testing and for choosing the most eloquent genetic test for each individual in particular, and also for the clinical interpretation of the results, which in many cases may raise numerous problems and discussions.

Keywords: multigene NGS panels, cancer susceptibility

Particularities of acute pyelonephritis in pregnant women

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Introduction. Acute pyelonephritis (APN) is an inflammatory disease that affects the urinary tract. About 12% of pregnant women suffer from it. APN has as complications septic shock, respiratory insufficiency and kidney failure. **Objective.** To evaluate all functional and morphological changes in pregnant women that can change the ordinary path of the evolution of pyelonephritis, and the impact on pregnancy. **Materials and method.** A retrospective study included data from 45 medical files of pregnant women who were diagnosed with acute pyelonephritis: age (A), number of pregnancies (P), pregnancy trimester (PT), type of lumbar ache (DL), hydronephrosis (H), urinalysis (AGU), results of USG, urine culture (U), and complications – imminent abortion (IA), premature birth (NP), retarded fetal development (RDIU). **Results.** A: 26.5 years old

($p=0.203$), P: 66.7% primiparous ($p=0.278$), PT: 57.8% third trimester ($p=0.310$), DL: 71.1% colicative, on the right side ($p=0.183$), H: 53.3% of cases ($p=0.254$), AGU: leukocyte 100% ($p<0.001$)/RBC – 60.5% ($p=0.130$), bacteria – 57.1% ($p=0.197$), USG: 62% pyelocaliceal dilation ($p=0.174$), U: 95% *E. coli* ($p<0.001$), IA: 40% ($p=0.165$), NP: 15.5% ($p=0.212$), RDIU 13.3% ($p=0.262$); Chi squared test = 29.7. **Conclusions.** Acute pyelonephritis affects pregnant women due to many morphological and functional changes that appear during pregnancy, has a bad influence on the intrauterine development of the child, and elevates the risk of pregnancy disruption, premature delivery, IUD retardation, intrauterine infection development etc.

Keywords: acute pyelonephritis, hydronephrosis, IUD retardation

Treatment of chronic endometritis in cases with implantation failure after *in vitro* fertilization procedure

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Introduction. One of the causes of infertility is the inability of the embryo to implant. Chronic endometritis is caused by the action of pathogens that populate the lower genital tract and is a major cause that affects the implantation of the embryo. Several current studies have shown improved fertility after the diagnosis and treatment of endometritis. The present study looked at the effects of endometritis treatment on the rate of *in vitro* fertilization (IVF) pregnancies in couples who had at least one failure in previous procedures. **Materials and method.** The study is a prospective one conducted between May 2018 and May 2021 and was performed on 36 couples with implantation failure after IVF procedures. All these couples underwent control hysteroscopes before and after antibiotic treatment. The hysteroscopic visual aspects, the results of the endometrial biopsies and the sampled intracavitary

cultures were compared. **Results.** Of the 32 cases studied, 19 cases (60.8%) were diagnosed with chronic endometritis either by direct observation or following the histopathological or microbiological result. Antibiotic therapy was a combination of fluoroquinolones and nitroimidazole derivatives. The treatment was performed in repeated cures for three months. In control hysteroscopy, in only two cases (6.2%) no complete cure of endometritis was obtained. Twenty-six cases followed a new IVF procedure, with a positive result in 15 cases (57.7%). **Conclusions.** Hysteroscopic examination of the uterine cavity is particularly important for the success of the IVF procedure. The diagnosis and treatment of chronic endometritis clearly bring benefits to cases that have failed the IVF procedures.

Keywords: endometritis, IVF, implantation, hysteroscopy

Progesterone-follicle ratio is better correlated than blood progesterone level with *in vitro* fertilization results

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Introduction. In *in vitro* fertilization (IVF) cycles, a late follicular phase elevation of progesterone (P) is traditionally associated with premature luteinization of endometrium and with a reduced rate of pregnancy. The aim of this study was to investigate the impact of late follicular phase P elevation in relation to ovarian response on cycle outcome. We started from the idea that the average value of P secretion relative to each mature follicle, progesterone-follicle ratio (PFR), better characterizes oocyte fertilization and embryo implantation compared to the value of P alone. **Materials and method.** Data were retrieved from 220 IVF cycles with normal responders in the period 2017-2021. We selected a heterogeneous population undergoing IVF stimulations with a long agonist protocol resulting in

3-15 follicles ≥ 14 mm and a blood P ≤ 3 ng/ml on hCG day followed by fresh embryo transfers. The PFR was calculated for each cycle included by dividing the blood P by the number of follicles ≥ 14 mm. The clinical pregnancy rate was calculated against the range of PFR values and blood P levels. Finally, we associate values of blood P and PFR with clinical pregnancy rate. **Results.** Elevated P levels were associated with a lower pregnancy rate only when they reached $>91^{\text{th}}$ percentile. The PFR was inversely and linearly related to the pregnancy rate for the whole range of values. **Conclusions.** A late follicular increase in blood P is detrimental only if it results from an increase in the average P secreted from each follicle. The limitations are related to study design.

Keywords: progesterone, IVF, follicle

The outcome of structural heart defects diagnosed in the first trimester of pregnancy

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Introduction. We present the results of a detailed protocol of fetal heart examination in the first trimester, in a fetal medicine unit in Bucharest, Romania. **Materials and method.** Since October 2009, in the "Filantropia" Clinical Hospital of Obstetrics and Gynecology, Bucharest, we have systematically assessed pregnancies at 11-14 weeks to screen for aneuploidies and for major fetal structural defects. The fetal anatomy examination protocol included the detailed assessment of the fetal heart. This was performed using the same principles as for the second-trimester examination, in the entire cohort. **Results.** Our population consisted of 7693 patients and 7816 embryos. The protocol for the ultrasound evaluation of the fetal heart was completed for 7597 embryos (97.2%). The outcome is known for 6912 cases (90.9%). We diagnosed 39 heart defects – 30

in the first trimester, seven in the second trimester and two postnatally. Twenty of the 39 heart defects were isolated cardiac malformations. Twelve of the isolated heart defects were diagnosed in the first trimester. The sensitivity of the first-trimester ultrasound in identifying major heart defects was 76.92%. The overall survival in cases of isolated congenital heart disease diagnosed in the first trimester was significantly lower than the survival in the cases diagnosed in the second trimester. **Conclusions.** Many (76.92%) of the significant heart defects can be diagnosed by ultrasound examination, in the first trimester. Our study is an argument for developing a multidisciplinary approach needed for the management of early detected structural heart disease.

Keywords: heart defects, first trimester, ultrasound, protocol, outcome

Management of unexpected *placenta accreta* spectrum after vaginal delivery – case report

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Placenta accreta spectrum refers to the range of placental pathologic adherence, including *placenta accrete*, *placenta increta* and *placenta percreta*. It affects around 1-200/500 pregnancies, with a rise in numbers seen during the past two decades. The primary diagnostic modality is antenatal diagnosis by obstetric ultrasonography, which leads to planned birth by cesarean in a highly specialized center. The most generally accepted approach to *placenta accreta* spectrum is caesarean hysterectomy with the placenta left *in situ* after

the delivery of the fetus as, usually, attempts at placental removal are associated with a significant risk of hemorrhage. Conservative or expectant management should be rare and considered individually. This paper presents the conservative management of a 33-year-old patient, IIG IP, who delivered vaginally at 36.3 gestational weeks and was afterwards diagnosed with an unexpected *placenta accreta* spectrum.

Keywords: *placenta accreta* spectrum, vaginal delivery, conservative management

The new Enzian classification and the correlation between preoperative evaluation of deep infiltrating endometriosis and intraoperative findings

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Introduction. Deep infiltrating endometriosis (DIE) is a debilitating condition with an ill-defined set of symptoms, associated with significant delays in diagnosis and treatment, which severely impacts the patients' quality of life and raises high healthcare costs. **Objective.** The comparison of preoperative stadialization of DIE, by clinical exam, ultrasonography and magnetic resonance imaging (MRI) with intraoperative findings by means of the new Enzian and rASRM score (the revised American Society for Reproductive Medicine). **Materials and method.** Between October 2019 and September 2020, a total of 196 women underwent surgery due to deeply infiltrating endometriosis, at the Premiere Hospital, EndoInstitute – endometriosis competence center specialized in minimally invasive surgery, in Timișoara, Romania. The symptomatology was recorded preoperatively, as well as by clinical exam, intravaginal ultrasonography, MRI, being later compared with the intraoperative findings by means of the ENZIAN score and rASRM score. Laparoscopy was the only surgical approach. **Results.** A clear correlation was seen between the grades of severity in the rASRM score and the Enzian

classification. There was a strong correlation between clinical findings and ultrasonography, in relation with MRI results and intraoperative findings, especially for lesions in vagina, rectovaginal space, rectum, sigmoid colon and bladder, almost 90% for vagina/rectovaginal space and 85% for rectum/sigmoid colon. For uterosacral ligaments and intestine, the sensitivity and negative predictive values were lower, due to technical aspects, such as the impossibility of evaluating the small intestine by ultrasonography. **Conclusions.** In our study, ultrasonography and MRI-based Enzian score correlated well with the intraoperative findings, enabling a better multidisciplinary approach of the surgical procedure, involving endometriosis surgeon, visceral surgeon and urologist. As well, a correct preoperative evaluation of all deep endometriosis lesions is mandatory in order to correctly inform the patients about the possible risks, complications and surgical costs. Therefore, Enzian score represents an excellent communication tool between radiologists and gynecologists, and facilitates the whole process, from diagnosis to surgical treatment.

Keywords: new Enzian classification, endometriosis

Methods of evaluating the colorectal and urinary surgery quality in colorectal and urinary surgery regarding advanced deep infiltrating endometriosis

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Introduction. Deep infiltrating endometriosis surgery is a challenging multidisciplinary and complex surgery that requires special skills, harmonized team effort and mastering of anatomy of the patient, along with the physiopathology of the disease. EndoInstitute Timișoara is an excellency European accredited center for surgical treatment of such complex cases. Only in 2020 we have managed surgically 196 DIE cases. Out of these cases, we have performed 172 colorectal surgeries (145 bowel resections, 27 bowel shavings) and 17 ureteral resections (14 end-to-end anastomosis and three ureteral reimplantations). **Materials and method.** We have chosen to evaluate each anastomosis in terms of leakage, vascularization, risk of hemorrhage and tension in tissues. For this purpose, we have used for bowel anastomoses the Michelin test (the classical method of evaluation) and we added the intraoperative endoscopic

inspection for leakage and the ICG test for vascularization. For ureteral anastomosis and replantation, we have assessed the vascularization of the ureteral stomps by ICG test. In some cases, we have used ICF overlay images to determine the ureteral trajectory and nutritive vessels prior to resection step. All ureteral anastomoses were performed on double J catheter that was kept up to 5 weeks after procedure. All the anastomosis (bowel and ureteral) were performed tension-free. We recorded two bowel fistulas and no ureteral fistulas. **Results.** We have concluded that assessing the quality of the anastomoses by using these methods offers a greater safety for the patient and the surgeon, translated in lowering the rates of complications related to anastomotic leakage from 3 to 1.5 percent.

Keywords: colorectal and urinary surgery, anastomosis, infiltrating endometriosis

Low-impact laparoscopy, ERAS and multimodal analgesia in endometriosis advanced surgery

Simedrea Voicu

EndoInstitute, Premiere Hospital, Timisoara

Introduction. Deep infiltrating endometriosis surgery is a challenging multidisciplinary and complex surgery that requires special skills, harmonized team effort and mastering of anatomy of the patient, along with the physiopathology of the disease. EndoInstitute Timișoara is an excellency European accredited center for surgical treatment of such complex cases. Only in 2020, we have managed surgically 196 DIE cases. **Materials and method.** Since the beginning of 2020, we have established special up-to-date protocols for all advanced surgeries, including DIE, in order to minimize the impact of these traumatic and challenging procedures and to maximize the positive experience for the patient and benefit results. These procedures were discussed and agreed in our collective between surgeons (gynecologic, colorectal, urologist and neurosurgeons), pain therapist, anesthesiologist, nutritionist and rehab specialist. All 196 patients were submitted to these procedures that were applied partial or entirely. Regarding low-impact laparoscopy, we have used minilaparoscopy (3.5 mm tro-

cars, 3 mm instruments) and lower pressure CO₂ regime (7-8 mm Hg), along with special dissecting and sealing instruments. Regarding ERAS, we used a cumulus of measures starting with 4-week preoperatively and ending on patient discharge to ensure the best management of the physical and psychological preparation and rehab, bowel preparation and nutrition, fluid, electrolytes and temperature homeostasis, infection prevention and pain management. Regarding multimodal analgesia, we started preoperatively and ended one month after surgery, using local and regional analgesic blocks, non-opioid medication and inhibitors if central pain, along with hypersensitization mechanisms. **Results.** We have evaluated the efficacy of these measures using pain scores and satisfaction questionnaires and we concluded that there is a certain achievement in terms of lowering postoperative pain, enhancing patient satisfaction, and reducing hospitalization and complication rates.

Keywords: ERAS and multimodal, analgesia endometriosis, laparoscopy

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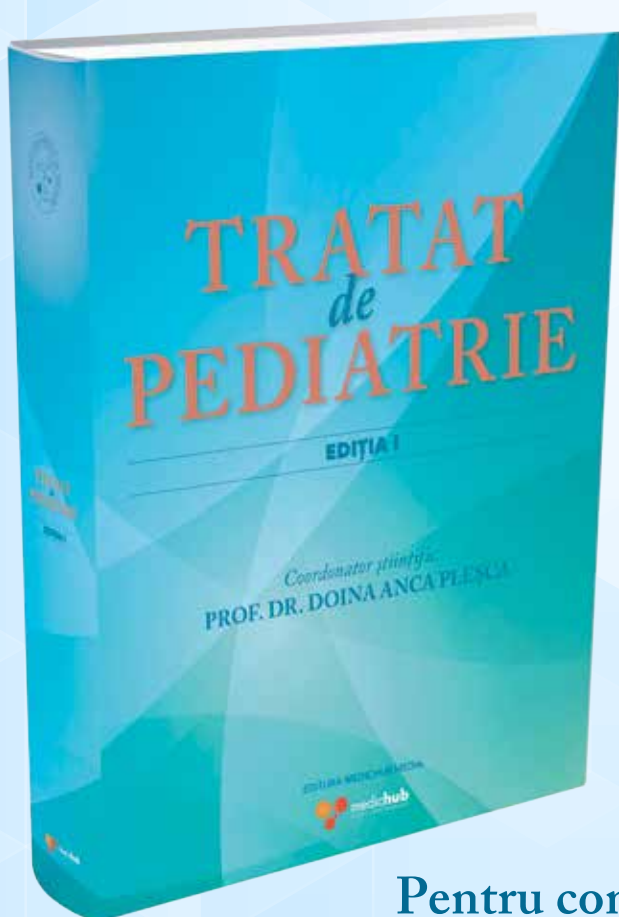
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