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ABSTRACTS

- FREIE MITTEILUNGEN / COMMUNICATIONS LIBRES
- POSTERS / POSTERS
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P = Poster ohne Präsentation / Poster sans présentation

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Freie Mitteilungen / Communications libres

FM = Freie Mitteilung/ Communication libre

FM I/ 10

GENE DISCOVERY IN FETAL MALFORMATION PHENOTYPES

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Introduction: The announcement of a serious or even lethal condition during pregnancy or at birth is a devastating experience. Expectations to identify the cause are usually high not only for psychological reasons, but also for determining recurrence risks as well as pregnancy and perinatal management for subsequent pregnancies. Many major, and potentially lethal, malformations are already detected by prenatal ultrasound. While novel next generation sequencing technologies have facilitated the discovery of disease-causing genes in children with various phenotypes, only little attention has been paid to using these strategies for gene identification in severe and potentially lethal human malformation syndromes detected during pregnancy.

Patients and Methods: Our goal is to identify disease genes causing autosomal recessively inherited malformation phenotypes. We select families in which at least two children (including at least one girl) died during pregnancy or after birth because of their malformations. The malformation pattern, confirmed by autopsy, will be correlated to a developmental pathway in embryogenesis if possible. We use whole exome sequencing (WES) for gene identification. Genes with homozygous or compound heterozygous mutations will be considered candidate genes, and truncating mutations will be prioritized. A critical aspect is genotype-phenotype correlations of candidate genes by means of developmental pathway analysis and cross-species phenotyping using animal models.

Results: We present the prenatal and post-mortem phenotypes of two new malformation syndromes caused by novel mutations in genes not yet described to cause human disease. These genes are involved in early cell division processes. We are able to link the gene function to developmental pathways of ciliary disorders and midline defects reflected in the fetal phenotypes. Comparisons to animal model phenotypes further support causality.

Conclusions: Our work illustrates the successful application of WES approaches to identify and characterize mutations in recessive disease genes leading to early errors of morphogenesis. It is important to document prenatal findings and to perform autopsy for precise clinical phenotyping in order to discover new prenatal syndromes and to establish causality of the mutations identified. Ultimately, families and health care professionals will benefit from novel care and treatment approaches based on the research into these biological mechanisms.

FM I/ 11

PHENOTIP – A WEB-BASED INSTRUMENT TO HELP DIAGNOSING FETAL SYNDROMES ANTENATALLY

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Introduction: Given the large number of existing fetal syndromes and the significant overlap in the prenatal findings, antenatal differentiation for syndrome diagnosis is difficult. We have thus built Phenotip.com, an internet-based search engine designed to search syndromes based on a single or multiple sonographic markers. However, the sensitivity and specificity (validation against postnatal diagnosis) of this new tool has never been tested.

Method: In order to test the power of our database, all "cases of the week" from Thefetus.net were considered (380 cases). Inclusion criteria were syndromes only. Exclusion criteria were cases with a unique organ involved. All the remaining cases were considered (n=50).

Results: A total of 43 cases (86%) were found as correct and unique diagnosis. In 7 cases (14%), 2-5 diagnoses were identified, always including the correct diagnosis. By using all the data provided in TheFetus.net, many of these multiples diagnoses can be excluded. In 12 cases (24%), one of the markers used was only present in the prenatal period and other webbase tools could not have been used.

Conclusions: In contrast to other commercially available databases, Phenotip.com only relies on antenatally diagnosable markers and does not include often subtle, postnatal findings. Our database certainly does not replace expert fetal care providers as it still requires the input of accurate findings and will often only generate a differential diagnosis, which then needs to be explored further. However, the present study demonstrated excellent sensibility and specificity of Phenotip.com.
Further developments will include the addition of magnetic resonance imaging markers as well as further refinements in the search engine to allow prioritisation based on incidence of syndromes and markers. With this database, we hope to facilitate antenatal diagnosis of fetal syndromes and improve patient care.

FM I/ 12

INTENSITY OF DELIVERY ROOM RESUSCITATION IN PRETERMS DOES NOT INFLUENCE NEURODEVELOPMENTAL OUTCOME AT 2 YEARS CORRECTED AGE

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Introduction: Neonates born below 33 weeks usually require medical support immediately after birth, the so called "delivery room (DR) resuscitation". DR resuscitation was graded into three levels of intensity since 2005 in Geneva. Our study aimed to analyze the predictive value of the intensity of DR-resuscitation on neurodevelopmental outcome at the corrected age of 18-24 months of life.

Material and Methods: Retrospective single center cohort study. Neonatal data was collected prospectively. Included cases were all lifeborn neonates <33 0/7 weeks without major malformations born between 2005 and 2010. Intensity of DR-resuscitation was classified as follows: I-mild: stimulation, aspiration; II-moderate: respiratory support by nasal CPAP, mask ventilation; III-heavy: invasive and non-invasive mechanical ventilation (including CPAP) for more than 30 minutes, medication with vasoactive drugs, chest compression. Neurodevelopment at 2 years was assessed with the Bayley scales of infant development II (MDI and PDI scores).
The main predictor was the level of DR-resuscitation. We performed a one way analysis of variance.

Results: 655 neonates met inclusion criteria with median gestational age of 29.6 (±2.3) weeks and median birthweight of 1344 (±461) g. All neonates required DR-resuscitation as follows: Level I 5.4 %, Level II 23.7 %, Level III 69.4 %. 323 children had a neuro-developmental assessment at 18-24 months of corrected age. Mean MDI and PDI scores were 90.34 and 84.70 respectively, without significant differences between intensity levels of DR-resuscitation. Subgroup analysis for neonates born below 28 weeks (n= 61) showed mean MDI and PDI scores of 90.98 and 85.92 respectively, also without difference between the only two levels of DR-resuscitation observed (II and III).

Conclusion: Intensity of DR-resuscitation in preterm neonates defined by our three levels had no independent predictive value for neurodevelopmental outcome at corrected age of 18-24 months. Heavy resuscitation at delivery was not predictive of worse outcome but a more detailed grading of level III DR-resuscitations may be necessary.

FM I/ 13

ANAL CONTINENCE AND QUALITY OF LIFE FOLLOWING OBSTETRICAL ANAL SPHINCTER TEAR: A 12 YEARS COHORT STUDY FOLLOW-UP

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Introduction: In 2009, Baud et al. published their study entitled "Pelvic floor dysfunction 6 years post-anal sphincter tear at the time of vaginal delivery". The evolution over the time of the differences observed in this first study has never been studied. Based on the 12 years follow-up of the same patient's cohort, this study assessed for the second time fecal incontinence after obstetric anal sphincter tear.

Method: Among 13'036 women who gave birth vaginally to a singleton in cephalic presentation in pregnancies >37 weeks' gestation from January 1996 to December 2006, 196 women with anal sphincter tear, defined as 3rd- and 4th-degree perineal tears, and 588 matched controls were included in our first 2008 study. 258 patients who participated to the first study were currently recontacted to answer again the same Wexner questionnaire grading fecal incontinence.

Results: A total of 196 (76%) agreed to participate to this second study. Respondents and non-respondents were similar in term of sociodemographical data, mean Wexner score at the time of first study and obstetrical data at the time of the index delivery. Respectively 52 and 144 women with and without anal sphincter tears (ratio 1:3) returned the questionnaire (p=0.8). Both current groups were similar in term of sociodemographical and obstetrical characteristics.

Compared to women who had an atraumatic vaginal delivery, women who presented an anal sphincter tear were more likely to pass involuntary flatus (60% vs 44%, p = 0.05), to experience liquid stool incontinence (25% vs 13%, p = 0.048) and to wear pad (13% vs 5%, p = 0.039). Similar trends were observed for incontinence for solid stool (6% vs 2%), alteration of lifestyle (10% vs 5%) and sexual life (8% vs 4%), without reaching significant statistical differences. Mean Wexner score that consider all the symptoms mentioned above, was higher in women after anal sphincter tear than in women who had an atraumatic vaginal delivery (2.5 vs 1.6, p = 0.046). Progression of symptoms between 6 and 12 years follow-up was also studied.

Conclusion: Fecal incontinence is still strongly associated with anal sphincter tear 12 years after the index delivery. In conclusion, fecal symptoms do not decrease with time.

FM I/ 14

IS THERE A RELATIONSHIP OF THE TEN GROUP CLASSIFICATION SYSTEM (TGCS) TO THE NEONATAL OUTCOME?

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Objective: Caesarean section (CS) rate is increasing worldwide, often without an ensuing consequence in regard of the neonatal outcome. The aim of this study was to analyse all births at University Hospital Basel 2013 using the Robson ten group classification (TGCS) with the intention to analyse the short term neonatal outcome.

Study Design: 2227 patients were prospectively classified within the TGCS. Neonatal outcome from 2327 newborns, given as umbilical cord arterial pH (pH), APGAR-score, transfer to neonatological intensive care unit (NICU) and neonatal mortality, was compared between patients delivering by CS and by vaginal birth (VB) for each group. Elective CS, fetuses with transverse lie and patients with two or more preceding CS were excluded. A propensity score weighted analysis was used to balance the data for confounding factors as maternal age, BMI, hypertension, diabetes, preeclampsia and other comorbidities. Separate linear model and a variation of the Wilcoxon rank sum test were performed.

Results: The overall CS rate was 34.9%.
Women in group 5 (previous CS, single cephalic ≥37 weeks) made the highest contribution to the overall CS rate. Nulliparous women with single cephalic full-term pregnancy in spontaneous labour (group 1) were the second highest contributor. They accounted for 40% of all births and 40% of the overall CS rate. In general pH was significantly lower after VB compared to CS especially in group 1, in nulliparous women with induction of labour (group 2a), trial of labour after previous CS (group 5) and multiple pregnancies (group 8) ($p=\leq 0.0001$). An APGAR-score of ≥7 after 5 minutes was more likely after CS compared to VB all over, in detail in group 2a and all breeches (groups 6 and 7), but less likely in preterms (group 10) after CS. In total, after CS transfer to NICU was about twice as likely compared to VB (rate of transfers after CS 16.9% vs. 9.0% after VB). Only in group 1 significantly less newborns had to be transferred after CS. Overall neonatal mortality was 0.86% with equal distribution among CS and VB.

Conclusions: Statistically significant differences between newborns after CS and VB were found for pH and APGAR-scores in all groups. Transfer to NICU occured after CS in group 1 less frequent than after VB. This needs further evaluation. Our findings are limited by the small number of some groups, their heterogenicity and the fact that these differences in arterial pH values may not be clinically relevant.

FM I/ 15

WOMEN SEXUAL EXPERIENCE 12 YEARS AFTER ANAL SPHINCTER INJURY: THE LUBRICATION INJURY?

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Introduction: In 2009, Baud et al. published their study entitled "Pelvic floor dysfunction 6 years post-anal sphincter tear at the time of vaginal delivery". The evolution over the time of the differences observed in this first study has never been studied. Based on the 12 years follow-up of the same patient's cohort, the present study assessed for the second time sexual function after an obstetric anal sphincter tear.

Method: Among 13'036 women who gave birth vaginally to a singleton in cephalic presentation in pregnancies >37 weeks' gestation from January 1996 to December 2006, 196 women with anal sphincter tear, defined as 3rd- and 4th-degree perineal tears, and 588 matched controls were included in our first 2008 study. 258 patients who participated to the first study were currently recontacted to answer again the same Female Sexual Function Index (FSFI) questionnaire grading sexual function, a multidimensional score combining 19 questions in 6 subscales.

Results: A total of 193 (75%) agreed to participate to this second study. Respondents and non-respondents were similar in term of sociodemographical data, mean Wexner score, global FSFI score at the time of first study and obstetrical data at the time of the index delivery. Respectively 52 and 141 women with and without anal sphincter tears (ratio 1:3) returned the questionnaire. Both current groups were similar in term of sociodemographical and obstetrical characteristics. Neither the subscales (desire, excitation, lubrication, orgasm, satisfaction or pain), nor the global FSFI score showed statistically significant differences between women with and without previous anal sphincter tear. However, significant differences were observed for questions relating lubrication and pain 12 years after delivery. Compared to women with an atraumatic delivery, women with an anal sphincter tear were more likely to report difficulties concerning "Lubrication during sexual activity about half of the time or less" (20 vs 9%, $p<0.05$, similar to our 1st study) and "Pain during vaginal penetration" (14 vs 5%, $p<0.05$). Interestingly, our previous results showed significant differences for the question "pain following vaginal penetration" whereas difference for "pain during vaginal penetration" was irrelevant.

Conclusion: Women with anal sphincter laceration are more prone to report sexual difficulties related to lubrication and pain 12 years after vaginal delivery. This study shows the urgent need for further larger investigation.

FM II/ 20

HISTOLOGIC UNDERSTIMATION OF ATYPICAL DUCTAL HYPERPLASIA IN VACUUM ASSISTED BREAST BIOPSIES

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Introduction: Stereotactical breast biopsies of clinically occult but mammographically suspect lesions is experiencing constant improvement. The diagnosis of atypical ductal hyperplasia (ADH) still remains a great challenge. ADH is associated with a higher risk of malignancy and is therefore classified as precancerosis.

Material and Method: The Breast Center of the University Hospital of Zürich performed, from 1.1.2005 to 1.2.2015, 3975 vacuum assisted breast biopsies, of which 1276 stereotactically und 500 ultrasound-guided. ADH was diagnosed in 58 breast biopsies, an open excision of the lesion was always recommended. In 7 cases a mammographic follow up was performed without open excision.

Results: ADH was found in 54 stereotactical vacuum assisted biopsies and 4 core needle biopsies. In one patient ADH was diagnoses in two different biopsies. 59 % lesions were completely excised during biopsy, 34 % only partially. The underestimation rate of ADH in the stereotactical method with a 8 gauge needle was 20% (n = 8), in 7 cases we found DCIS in one case an invasive ductal carcinoma. With the 11 gauge needle the underestimation rate was 60%, 2 of 3 cases being diagnosed DCIS in the open excision. In these cases the biopsy didn't excise the lesion completely. Using a 7 gauge needle the underestimation rate was 42% (n =3). In the ultrasound guided method the underestimation rate was 30 % (n=1), DCIS being diagnosed in the open excision. The 7 cases in which mammographic controls were performed, were categorized as BIRADS 2 lesions.

Discussion: As the underestimation rate is still high, open excision should be recommended in case of ADH. Only if the excision is completely excised during biopsy a regular mammographic control can be performed. Patients should be informed about the higher risk of malignancy.

FM II/ 21

IMPROVING COLPOSCOPY STANDARDS BY APPLYING THE QUALITY INDICATORS FROM THE EUROPEAN FEDERATION OF COLPOSCOPY

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Objective: Quality Assurance is a way of preventing mistakes in clinical practice and is gaining increasing importance in our health system. Up to now, colposcopy and colposcopy guided treatments are performed in Switzerland without any specific quality requirements. The European Federation of Colposcopy (EFC) identified and published in its Delphi consultation quality indicators for colposcopic practice. These six criteria are relevant, reproducible and easy to be performed.

Study design: We retrospectively applied these quality indicators on patients treated in our Colposcopy Clinic during the past 2 years. These indicators and corresponding targets are (1) documentation of whether or not the squamocolumnar junction has been seen (100%); (2) colposcopy prior to treatment for abnormal cervical cytology (100%); (3) percentage of conizations to contain cervical intraepithelial neoplasia grade two or worse (≥85%); (4) percentage of excised lesions with clear margins (≥80%); (5) number of cases to be colposcoped per year with low grade/minor changes (≥50); and (6) high-grade/major lesions (≥50).

Results: In regards to the above mentioned indicators and corresponding targets we achieved >95/100% for visibility of squamocolumnar junction (1), >95/100% for colposcopy prior treatment (2), 85/85% for conizations with CINII/CINIII (3), and 80/80% for clear conisation margins (4). In regards to the number of colposcopies for low grade and high grade lesions not all doctors achieved the necessary levels.

Conclusion: Adopting the quality indicators recommended by The European Federation of Colposcopy offers the possibility to evaluate the performance of colposcopists and provide a benchmark system to secure performance nationally and internationally. Sustainable improvement in clinical practice is only possible with specifically developed and adjusted quality standards. Vital for all quality assurance is an open and self-critical approach. By applying quality indicators to our retrospective data, we identified strengths and weaknesses which will enable us to make future improvements.

FM II/ 22

AGE OF ONSET, DELAY OF DIAGNOSIS AND SUBJECTIVE DISORDERS IN PATIENTS WITH VULVAR LICHEN SCLEROSUS - A BLINDED SURVEY

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Introduction: Vulvar lichen sclerosus (LS) is a chronic inflammatory and mutilating disease, which goes often undetected for years. Advanced disease severely affects quality of life like sexual disorders and is also associated with an increased risk of vulvar cancer. In 2013 the first german speaking support group of LS patients was founded called Verein Lichen sclerosus.

Methods: A blinded survey was performed by the Verein Lichen sclerosus consisting of questions regarding 14 items such as age, time of diagnosis, diagnosis delay and subjective symptoms. The survey was anonymized and then evaluated by the Cantonal Hospital of Lucerne. To answer the question of increased bladder disorders in LS patients we added a case control study.

Results: Of 138 asked women 113 returned their questionnaire, that means a return rate of 82%. The median delay of diagnosis is 4 years. The mean onset of the disease is under the age of 40. The median number of consulted physicians before diagnosis counts 3 physicians.

Bladder disorders were significantly more frequent in patients with LS compared to women without LS.

This survey demonstrates the urgent to improve physicians awareness of this disease and the importance to inform patients about the support group Verein Lichen sclerosus. LS associated urinary bladder disorders need to be analyzed in a specific manner.

Conclusion: In contrast to literature, onset of LS is not at postmenopausal age. Diagnosis delay is in average more than five years and in average 3 physicians are required for diagnosis. LS remarkably affects quality of life, partnership and sexuality, and is associated with urinary bladder disorders.

FM II/ 23

SEX EDUCATION FOR ADOLESCENTS: WHAT DO THEY NEED?

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Introduction: Sex education of adolescents is one of the important strategies to improve current and future adolescent as well as adult sexual health. However, there is a current lack of data on how sex education can be organised most effectively. To better address adolescents needs it is important to gain an insight into their perspective on adequate sexual education.

Methods: A questionnaire specifically designed for the present study was sent to 141 pupils about six weeks after having received sex education at school. Main outcome measures were to identify adolescents needs in sex education, to evaluate whether these needs show any association with age (£14 vs >14 years), sex (male vs female) and school level (A vs B/C), and to gain information on satisfaction with the the peer group sex education program they received.

Results: Adolescents rated sexually transmitted diseases (STDs), contraception and love as the most important topics in sex education. While partner and friends were considered to be the best counsellors for emotions and the first sexual intercourse, a peer led sex education program (Achtung Liebe) was reported to be more adequate to discuss especially pornography and masturbation but also contraception and puberty than the other options given in the questionnaire (i.e. parents, friends, partner, siblings, doctors, teachers). For all topics teachers scored lowest when compared to other educators. The absence of a teacher was especially important for young adolescents and adolescents in school level A. Elder adolescents showed more interest in the topic termination of pregnancy than their younger counterparts who rated the topics contraception, sexual activity/ orgasm and sexual anatomy as more important.

Conclusions: As a total male as well as female adolescents seem to be highly interested in sex education and to be open to also discuss personal as well as medically important sexual topics with specialist in sex education. At the same time it becomes evident that teachers are often not experienced as such specialists. A peer led approach including physical and psychological topics during sex education seems to better meet adolescents needs and to consequently represent a valuable approach for effective sex education.

FM II/ 24

INCIDENCE TRENDS OF CERVICAL CANCER AND ITS PRECURSORS IN CENTRAL SWITZERLAND, 2000-2014

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Introduction: The incidence of cervical cancer (CC) in Switzerland is very low. Almost nothing is known about the incidence of precancerous lesions and the amount of conisations performed. The aim of this study was to evaluate the incidence of CC and its precursors in central Switzerland from 2000 to 2014 as baseline to observe the impact of HPV-vaccination.

Materials and Methods: Data were provided by the cancer data registry of the Institute of Pathology Cantonal Hospital Lucerne. All cases of CC diagnosed from 2000 to 2014 in central Switzerland were analyzed. Data included year and age at time of diagnosis, histopathological type, FIGO-stage and nationality. We also analysed performed conisations from 2000 to 2014. Results were classified in negative for dysplasia or malignancy, CIN III and CC.

Results: Between 2000 and 2014 an amount of 2002 conisations were performed in central Switzerland. 938 (46.9%) samplings were negative for dysplasia or malignancy. 997 (49.8%) showed histophathological CIN III and 67 (3.3%) showed CC. The total amount of conisations with CIN III or CC showed an increase from 47 in the year 2000 to 141 in the year 2014. However the total number of CC was consistent. Histopathology showed in 57 CC cases with 85.1% most frequently squamous cell carcinoma, in 11.9% adenocarcinoma and in 3.0% another type of CC.

The total number of CC registered in central Switzerland in the period 2000 to 2014 was 175. On hundred and thirty-four of them were squamous cell carcinoma (76.5%), 33 showed adenocarcinoma (18.9%) and 8 showed others (4.6%). Analyses showed a constant number of CC during the years with a maximum of 22 cases in 2014. There was no trend in different histological types. The mean age at time of diagnosis was 48.6 years, whereas patient diagnosed with adenocarcinoma were older with 49.7 years compared to patients with squamous cell carcinoma with 47.7 years. Seventy-one percent of woman diagnosed with CC belong to the age group of 25-55 years. There was no trend to a younger age at time of diagnosis in adenocarcinoma.

Conclusions: The total number of conisations increased during the last 15 years. We found an increasing number of precancerous lesions, but no increasing number of CC. Almost half of performed conisations were without precancerous lesions. The average age of patients with diagnosed CC is remarkable low compared to other industrialized countries.

FM II/ 25

FEMINISATION IN SWISS MEDICINE – CONSEQUENCES FOR THE WAY OF LEADERSHIP ?

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Introduction: The number of Swiss female medical doctors is increasing – from10% in 1960 to 60.5% in 2009. This requires a different leadership concept as both the head of departments as well as the junior staff need flexible work-life models due to family planning reasons or part-time positions. On the other hand, increasing numbers of women gain positions in the time-intensive highly specialized surgical disciplines and have a family to be looked after as well. It has been suggested from economic research that women have a different leadership style. Therefore, in this study we investigated whether in the Swiss medical system a gender difference can be observed.

Material and Methods: The FMH conducts a yearly anonymous survey within Swiss junior doctors to analyse the quality of their training. In a sub-analysis, the results of the 2014 survey were evaluated in regards to the gender of the Head of the Institution. Points of interest were the culture of leadership, management of critical incidences, decision making, assignment of evidence based medicine, professional expertise, culture of learning and the overall assessment.

Results: Of the 1063 Swiss hospitals throughout all disciplines, 113 departments are headed by women. For a sub-analysis, the disciplines with the highest amount of female leaders were chosen, namely Gynecology (19.7%), Psychiatry (17.9%), Paediatrics (12.5%), and Internal Medicine (9.3%). No statistical difference in either of the analysed subjects was found. Institutions with women in leadership positions were similarly judged in the culture of leadership (p =0.92), management of critical incidences (p =0.24), decision making (p =0.77), assignment of evidence based medicine (p =0.70), professional expertise (p =0.599), culture of learning (p =0.67) and overall (p =0.66).

Conclusion: Up till now, the female gender shift in medicine has neither led to an improvement nor an impairment in the way leadership is experienced by the junior employees. This result, however, might be biased by the low numbers of females in these positions.

FM III/ 30

FETAL MYELOMENINGOCELE REPAIR: MATERNAL AND FETAL OUTCOMES OF THE FIRST 15 CASES IN ZURICH

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Introduction: The MOMS trial, published 2011 by Adzick et al., showed a clear-cut benefit of prenatal myelomeningocele (MMC) repair compared to postnatal surgery. We present the maternal and fetal outcome of our first 15 prenatally operated cases.

Materials and methods: The first 15 cases with fetal MMC repair at the University Hospital Zurich were included. Inclusion and exclusion criteria for fetal MMC repair were adopted from the MOMS trial. Exactly the same maternal and fetal outcome parameters as in the MOMS trail were evaluated.

Results: Maternal age at OP was 29.9+/-4.9 years and their BMI 26.1+/-4.3kg/m2. Eighty-five percent were Caucasians and 60% nulliparae. Gestational age (GA) at fetal MMC repair was 24.2+/-1 weeks. The anatomic level of the lesion was L1-2 in 13.3%, L3-4 in 53.3%, and L5-S1 in 33.4%. One fetus had already club feet before prenatal operation. Postoperatively, an abdominal wall seroma or uterine hematoma was detected in 40% of the mothers. An amniotic fluid leakage through the hysterotomy was seen in one patient causing oligohydramnios. Chorioamniotic membrane separation was found in 20%, oligohydramnios in 27%, and PPROM occurred in 33%. Non surgery related complications were urosepsis, cholecystolithiasis, and an intermittent AV-bloc III in one patient each. Spontaneous labor started in 67%. Placental abruption did not occur. No blood transfusions were necessary during surgery, pregnancy, or C-section. An intermittent fetal bradycardia was noted during fetal repair. One perinatal death occurred due to severe lung hypoplasia after anhydramnios during pregnancy. GA at birth was 35.9+/-1.4 weeks and the birthweight 2710+/-441g. The newborns had a 5 min APGAR of 8.3+/-0.6 with normal umbilical artery-pH.

Conclusion: With regard to the time period between maternal-fetal surgery for MMC, our first 15 cases showed outcomes that are comparable with the ones of the MOMS trial. Prenatal counselling must include the option of repair before birth when a fetus is diagnosed with this devastating malformation and when the criteria for fetal intervention are met.

FM III/ 31

CERVICAL DILATION RATES IN FIRST STAGE OF LABOUR AND FACTORS OF INFLUENCE

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Introduction: The graphical assessment of labour progression by a partogram is widely spread to evaluate and monitor labour. Mainly the WHO partograph, introduced in 1994, is used, presuming a linear progress of labour with cervical dilation rates of 1cm/hour. Recent investigations state, that the first stage of labour follows an exponential instead of a linear curve with increasing dilation rates. Therefore, we assessed representative partograms for our parturients at the University Hospital of Zurich. Besides, we evaluated maternal, fetal and obstetrical factors influencing progress of labour.

Material and Methods: In a retrospective analysis of our computerized data between 1/2007 and 07/2014 we analyzed all singleton pregnancies in vertex presentation between 34+0 and 42+0 weeks of gestation delivered spontaneously with normal fetal outcome. Exclusion criteria were compromising maternal medical conditions, pregnancy complications and fetal malformations. Overall, we calculated cervical dilation rates in 8378 pregnancies and created representative partograms for our population according to parity and analyzed the influence of gestational age, maternal BMI and age, fetal weight, head circumference and fetal position and use of epidural anesthesia.

Results: Cervical dilation rates increase during progress of first stage of labour, with dilation rates slower than 1cm/hour at less than 7 cm of cervical dilation and faster than 1cm/hour above 7 cm. This leads to an exponentially curved partogram. According to parity, this reversal point of cervical dilation rate is shifted to the left or right in the partogram respectively. Factors, significantly influencing labour progress, are fetal position, head circumference and weight, the use of epidural anesthesia, maternal age and parity ($p<0.01$).

Conclusion: Our data confirm the exponential curve of modern partogram in the first stage of labour. We found the reversal point of labour progress at around 7 cm of cervical dilation and could evaluate different significant factors of influence. As deviations from labour progress, as set in the WHO-partograph, often lead to obstetrical interventions, such as labour augmentation by oxytocin application or termination of delivery by cesarean section in case of prolonged labour, the monitoring of labour by modern partograms should be standard procedure to minimize unnecessary interventions and improve maternal and fetal outcome.

FM III/ 32

MIGRATION AND MATERNITY: COMMUNICATION IN PREGNANCY

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Introduction: In 2013 38% of all women delivering a child in Switzerland had a foreign citizenship. A part of these women does not speak any of the languages commonly used in Switzerland. Therefore the communication between a treating physician/midwife and a pregnant woman is becoming more challenging and research is needed to identify the problems of this communication. We investigated the communication between physicians/midwifes and pregnant women based on anonymous interviews.

Material and methods: Between December 2013 and April 2014 we recruited 127 Swiss and 124 foreign women (no Swiss passport) by a given randomization scheme in two large University hospitals. All women gave informed consent to the study. After a regular pregnancy control the physicians/midwifes were asked to judge the communication during this pregnancy control on a 4-point-scale. The pregnant women received a telephone call in their preferred language and were asked to judge the communication during the same pregnancy control. The telephone interview was anonymous and pregnant women were encouraged to formulate any problem they had experience in communication.

Results: Telephone interviews were conducted in 28 languages besides German, French and Italian. Six women (1 non-Swiss and 5 Swiss) once contacted refused the telephone interview and 19 (9 non-Swiss and 10 Swiss) did not answer the call after several attempts. The communication was judged to be of good quality by physician/midwife with 77% of non-Swiss and 97% of Swiss women. In comparison pregnant women classified the quality of communication with physician/midwife as good in 92% and 97% respectively. Agreement on good quality of communication between physicians and non-Swiss women was reached in 75% compared to 95% in Swiss women. Professional interpreters in our study were used only 7 times to facilitate communication during the pregnancy control, whereas physicians/midwifes were more often relying on hospital staff and family members when translation was needed (n=22).

Conclusion: Non-Swiss women did judge the communication better than the treating physicians/midwifes (92% vs. 77%). Therefore the worries about paternalism and misunderstandings can be reduced by empathic and supportive information through the physicians/midwifes in pregnancy controls. Nevertheless good communication between Swiss women and physicians did not reach 100% leaving space for communication improvements in general.

FM III/ 33

ELIMINATING MEASLES AND RUBELLA IN SWITZERLAND: PRELIMINARY DATA AND IMPORTANCE IN GYNAECOLOGY

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Introduction: Switzerland and all European WHO Member States have the goal of eliminating measles by 2015. Therefore, the Swiss confederation, Cantons and medical professional organizations are coordinating their efforts specified in the National strategy for the elimination of Measles 2011–15. Main objectives are: 1. to raise immunisation coverage of two year olds with 2 doses of MMR/measles vaccine to ≥ 95%; 2. to close the gaps with catch-up vaccinations for anyone born after 1963; and 3. to bring any measles outbreak rapidly under control using uniform procedures. Maternal measles do not cause malformations, but spontaneous and late abortions, stillbirths and preterm births are more frequent. Infants of nonimmune mothers lack maternal antibodies and are at increased risk for measles complications including SSPE. Here, we present current data and progress regarding the national strategy.

Methods: The advancements in achieving the goals are constantly monitored by surveillance systems (mandatory reporting of suspected cases and monitoring of immunisation coverage) as well as by specific evaluative studies until the end of 2016.
Results: Immunisation coverage in children with 2 doses increased from 83% (2008-10) to 86% (2011-13). Reported confirmed measles cases dropped from 3391 in 2006–08 to 262 in 2012–14. Median age was 15 years. In the period 2008-14, 23 rubella cases have been recorded in women in reproductive age, the last case during pregnancy occurred in 2009. An enquiry among GPs and pediatricians (Sentinella 2014) showed an extrapolated 33'500 catch-up doses were given to 2 to 50 years old patients, in 9 of 10 catch-up vaccinations, the initiative came from the physician and quite a few parents were vaccinated in the pediatrician's offices. A population based study in 2012 showed that 34% of parents of unvaccinated children (age 3–16) would consider to protect their child with a catch-up vaccination, and that 43% of unprotected adults would do so. In an evaluation >50% of the interviewed adults who noticed the „Stop Measles Campaign" got their vaccination cards checked or intended to do so.

Conclusion: Recent data indicate good progress and that Switzerland is quite close to eliminating measles and rubella. However, since the goal is not reached yet, all efforts should be continued. Verification of vaccination status and completion to 2 doses is crucial before 1st pregnancy or else immediately after birth.

FM III/ 34

SEQUENTIAL INFLAMMATORY CASCADE AND NOT HEMATOGENIC BACTERIAL INFECTION LEADS FROM PERIODONTITIS TO PRETERM PREMATURE RUPTURE OF MEMBRANES

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Introduction: Periodontal disease is associated with adverse pregnancy outcome, but the responsible mechanism and its association with preterm premature rupture of membranes (PPROM) in particular is not known. We assessed patients with PPROM to test the hypothesis that generalized defense mechanisms and not specific bacteria are predominantly involved. The aim of the study was to investigate associations between periodontal inflammation, microbiological and cytokine parameters in serum, vaginal fluid (VF) and gingival crevicular fluid (GCF) of women with PPROM compared with controls.

Patients and methods: In this prospective, observational case-control study, 45 patients with PPROM and 26 gestational age-matched controls with uncomplicated pregnancies were examined at three time-points (T1: 20-34 weeks of gestations; T2: within 48 h after delivery; T3: 4-6 weeks post partum). Examinations included subgingival (gingival crevicular fluid, GCF), vaginal, placenta and serum sampling for cytokine (IL-1b1, -6, -8, -10), bloodwork and microbiologic (PCR-microarray, culture) assays and placenta histology.

Results: Premature labor and amnion infection syndrome occurred more frequently in the study group and the proportion of babies referred to the Neonatology department was significantly higher in this group. Gram stain showed no difference in the rate of abnormal vaginal flora in both groups at T1 (time of PPROM). However, at delivery (T2) significantly more bacteria and histologic chorioamnionits were detected in the case group.

While cytokine levels showed differences between both groups at T1 and T2, at 4-6 weeks post partum cytokine levels in both groups did not differ significantly. There was no correlation of the microbiome between GCF and VF in women with PPROM and periodontitis.

Conclusions: Our study shows that PPROM is associated with clinical periodontitis. There was no correlation in the PCR-array-determined bacterial spectrum (microbiome) between vaginal and periodontal (GCF) fluid. However, in patients with PPROM, pro-inflammatory cytokines are increased in serum and vaginal fluid, while anti-inflammatory cytokines are predominantly upregulated in GCF. An inflammatory cascade sequentially involving periodontal tissue, maternal serum and finally vaginal fluid may represent the responsible pathomechanism involved in PPROM associated with periodontitis rather than hematogenic bacterial infection.

FM III/ 35

COLONISATION WITH GROUP B STREPTOCOCCUS IN PREGNANCY AND ANTIMICROBIAL SUSCEPTIBILITY

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Introduction: Infections with group B streptococcus (GBS) are an important cause of perinatal morbidity and mortality. The incidence of early-onset neonatal GBS disease has been declining due to antibiotic prophylaxis. Administration of penicillin during labor is recommended in women who test positive for GBS in a swab collected from the lower vagina and rectum within 5 weeks before delivery. With increasing resistance rates reported in GBS, close monitoring of antimicrobial susceptibility is important for appropriate antibiotic prophylaxis.

Material and Methods: Antimicrobial susceptibility was determined for all GBS isolates recovered in consecutive screening-positive vaginal-perianal swabs collected from pregnant women from 1.2.14 to 31.1.15 at the 2 sites of our hospital, including the Bruderholz site (B) and the Liestal site (L). All swabs were inoculated into selective enrichment broth. Testing was performed by Vitek 2 Streptokokkenkarte AST-01 (L) and by disc diffusion (Kirby Bauer; B) and included inducible resistance to clindamycin. Interpretation was based on EUCAST standards 2014.

Results: In a total of 696 samples (341 in B, 355 in L), GBS was isolated from 124 samples (17.8%), including 67 samples (19.6%) in B and 57 samples (16.1%) in L (p=0.22). All isolates were fully susceptible to penicillin G and 3rd generation cephalosporins. Susceptibility to both clindamycin and erythromycin was found in 44/67 isolates (65.7%) at site B and in 41/57 isolates (71.9%) at site L (p=0.45). Resistance against both clindamycin and erythromycin was detected in 18/67 isolates (26.9%) and 10/57 isolates (17.5%), respectively (p=0.22). Four of 5 isolates at site B and 5 of 6 isolates at site L were resistant to erythromycin and susceptible to clindamycin but had a positive clindamycin induction test and were therefore reported as resistant.

Conclusion: Our GBS colonisation rate of 17.8% is similar to national data. Resistance rates to clindamycin (29.8%) and erythromycin (31.5%) were high. To increase sensitivity of GBS detection, we recommend inoculation into selective enrichment broth for all vaginal-rectal swabs obtained in pregnant women. Plain vaginal swabbing is inadequate. Susceptibility testing is important for appropriate antibiotic selection, particularly in penicillin-allergic women, in order to effectively prevent early-onset neonatal GBS disease. Individual institutions should periodically reassess antimicrobial susceptibility in GBS isolates.

FM IV/ 40

WHEN SMARTPHONES ARE USED FOR BIRTH REGULATION. A COMPARISON STUDY OF 4 SYMPTOTHERMAL APPS IN 2013 AND 2014

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1. The goal was to find out whether there are any apps on AppStore and Google Play that are able to indicate the fertile window as precisely as the best manual symptothermal method. This study was operated in summer 2013 and completed in summer 2014 in co-operation with the Swiss Federal School of Technology, Lausanne (EPFL).

2. The 2013 study compares the 7 symptothermal applications that can currently be found on the AppStore and Google Play among some 100 fertility apps which have been excluded right from the beginning as they are not adapted at all for effective birth regulation and highly misleading for this purpose. In this presentation, we focussed on quantitative criteria: the identification of false negatives and false positive results compared to an ideal solution (in which there is 0 false negative, 0 false positive result per cycle). The false positive days indicate wrongly infertile days as fertile and shorten the amount of infertile days per cycle (longer abstinence period); the false negative days wrongly indicate fertile days as infertile and, thus, drastically increase the unwanted pregnancies. This study was presented at the ECS congress in Lisbon in summer 2014.

3. The study of 2014 comprehends the whole fertile window, the beginning and its end; it analyzes and tests more than 160 cycles out of three randomly chosen case studies with more than 13 cycles each.

4. The best results were found on sympto (AppStore and Google Play), followed by myNFP (AppStore), CycleProGo, from Couple to Couple League (AppStore and Google Play) and Lily (AppStore).

5. In these 2 studies, new technologies to identify the fertile windows are presented and discussed. sympto is the only app containing a message box system which enables personal online counseling. The educational approach of sympto also facilitates the learning process of the beginners and increases the competence of the expert user.

FM IV/ 41

THREE NATURAL CYCLE IVF TREATMENT IMPOSES LESS PSYCHOLOGICAL STRESS THAN ONE CONVENTIONAL IVF TREATMENT CYCLE

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Introduction: IVF (In-vitro fertilisation) is one of the most stressful infertility treatment leading to high levels of psychological stress. NC-IVF (Natural cycle=gonadotropin free IVF) has been shown to be less expensive per achieved pregnancy than cIVF (conventional IVF with gonadotropins) and imposes less discomfort and risks. The pregnancy rate following three modified NC-IVF treatment cycles is similar to one cIVF treatment cycle. Until know it has never been systematically evaluated if NC-IVF is less psychologically stressful for infertile patients than cIVF.

Materials and methods: A prospective study was performed with NC-IVF (without/with 25mg clomiphene citrate daily) and cIVF patients between May 2013 and December 2014. The level of mental distress was analysed by validated psychological questionnaires filled in online at home before, during (NC-IVF) and after completed treatment cycle(s). We analysed psychological distress (BSI), depression (CES-D), infertility specific distress (IBS), influence of fertility problems on daily life (FertiQoL) and quality of life (WHOQOL-Bref). The outcome measures were assessed before starting the treatment (T1), before the first (T2), second (T3), third NC-IVF cycle (T4) and after the pregnancy test (T5).

Results: Data of 32 NC-IVF and 26 cIVF patients who completed the T1 and T5 questionnaires were evaluated. At T1 there were no differences in psychological variables between the two groups. At T5 the pregnancy rate was equal in the NC-IVF and in the cIVF group. At T5 NC-IVF patients had a significant lower level of depression (CES-D; $z = -2.156$, $P < 0.02$) and a higher satisfaction with the treatment (FertiQoL Treatment; $z = -1.727$, $P < 0.04$) than cIVF patients. During the sequence of NC-IVF treatment there was a reduction of infertility specific distress (IBS; $t(40) = 2.2$, $P < 0.03$), an increase of quality of life (WHOQOL-Bref; $t(39) = 2.5$, $P < 0.02$) and lower influence of fertility problems (FertiQol; $t(23) = 2.3$, $P < 0.03$).

Conclusion:
NC-IVF treatment seems to be less stressful for infertile patients. Furthermore, previous studies have shown that modified NC-IVF treatments can be equally effective and less risky compared to cIVF. Therefore this kind of treatment should be considered as an alternative treatment option in certain cases especially in psychologically distressed women.

FM IV/ 42

VITRIFICATION RESULTS IN SUPERIOR SUBSEQUENT 2 PN OOCYTE QUALITY AS COMPARED TO SLOW FREEZING

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Introduction: In Vitro Fertilisation in Switzerland is still under legal restriction which allows the simultaneous development of not more than three fertilised oocytes (2PN oocyte). In contrast, controlled ovarian hyperstimulation often yields more than three 2PN Oocytes. Cryopreservation of additional 2PN oocytes allows further embryo transfer cycles without the burden of repeated follicular stimulation. Many Swiss IVF centres still use the traditional so called "slow freezing" protocol for 2PN cryopreservation. Recent development of cryotechniques has led to clinical use of elaborated "vitrification" protocols, which consists of ultrarapid cooling and warming. The aim of our study is to compare slow freezing versus vitrification using 2PN oocytes.

Methodology: Retrospective cohort study of 2179 thawing cycles after slow freezing versus 1132 warming cycles after vitrification. All cycles were performed in one IVF center (fiore, St. Gallen) between 2010 and 2014. Slow freezing was performed using CBS high security straws (group A). For vitrification (group B) an improved technique derived from Cryotop (R) was used named Cryotech system (R). 2PN ooctes warmed with either method were cultured and compared in respect to survival rate (SR; n vital/n warmed), cleavage rate (CR; n cleaved/n cultured), embryo utilisation rate (UR; n transferred/n warmed) and pregnancy rate (PR; Beta-HCG positives; n positives/n tested).

Results: The main age of group A and group B patients was 35.0 +/- 4.6 years and 35.5 +/- 4.1 years respectively (ns). SR was for group A and group B 65.0% vs 99.0% ($p < 0.0001$). CR was for group A and group B 88.6% vs 93.7% ($p < 0.0001$). UR was for group A and group B 51.2% vs 76.2% ($p < 0.0001$). PR was for group A and group B 30.2% vs 35.0% ($p < 0.0001$).

Discussion: Since the introduction of the Cryotech (R) vitrification system a highly significant improvement of all the above presented parameters could be observed. Clinical pregnancy rates and delivery rates are not yet entirely available at the moment. Follow up studies to consolidate the impact of the vitrification system are in progress. The dramatical improvement of 2PN oocyte quality after vitrification made it obsolete to use the slow freezing protocol any longer at our centre.

FM IV/ 43

DO WOMEN WITH ENDOMETRIOSIS SUFFER MORE OFTEN FROM MISCARRIAGES?

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Introduction: Endometriosis is a chronic disease occurring in up to 10% of women during reproductive age. Compared to women without endometriosis the number of childbirths is reduced, but can be augmented by artificial reproductive therapy (ART). Current research supports the hypothesis, that most probably due to oxidative stress severe endometriosis might be associated with a higher rate of spontaneous abortion.

Methods: Retrospective data from 421 women with surgically/ histologically confirmed endometriosis and 421 controls matched for age were analyzed. Women were recruited in different Swiss and German hospitals. Obstetric history was collected using a self-administered questionnaire designed for the present study. Socio-demographic data, medical and parts of the gynaeco-obstetrical history were evaluated for the present study.

Results: In our population a total of 127 women (16%) had a history of miscarriages. There was no significant difference for the number of miscarriages between women with endometriosis (WwE) (N=59/ of 388) and control women (CW) without endometriosis (N=68/ of 405). 49 women (5.8%) did not answer this specific question. In WwE there were 41 with one, 12 with two and six with three and more miscarriages, compared to 48 CW with one, 12 with two and eight with three and more miscarriages. In both groups a history of miscarriage was associated with increased age (p=0.047). The severity of endometriosis showed no association with the risk for a miscarriage (ASRM I/ 14 women, II/ 16, III/ 21, IV/ 11). The difference for childlessness (having at least one miscarriage and no term pregnancy) was strong (32 WwE and 14 CW).
Independent of prior term pregnancies or miscarriages WwE reported significantly higher emotional distress associated with undesired childlessness than those without (p=0.001).

Conclusion: WwE had the same amount of miscarriages as CW, but childlessness was significantly more frequent. The stage of endometriosis was not associated with the miscarriage rate. Childless WwE and miscarriages experience more emotional distress associated with childlessness than women without endometriosis.

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INCIDENCE OF UNDIAGNOSED LYOMIOSARCOMA IN WOMEN UNDERGOING HYSTERECTOMY AND MYOMECTOMY FOR BENIGN INDICATION. A RETROSPECTIVE, SINGLE-CENTER, STUDY

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Introduction: The U.S. Food and Drug Administration is considering restricting or banning morcellation in minimally invasive hysterectomies and myomectomies (removal of fibroids) because of new reports of higher incidence of undiagnosed sarcoma in women undergoing these procedures. In this context, we decided to review our cases from 1994 of undiagnosed leiomyosarcoma in order to analyze the prevalence, preoperative and postoperative characteristics and survival.

Material and method: We searched in our database all cases of leiomyosarcomas diagnosed since 1994. Of these, we selected cases of surgery performed for presumed benign disease without preoperative suspicion of a malignancy. The data were analyzed in term of personal and family history, health habits, BMI, history taking, clinical examination, imaging, cervical smears, endometrial biopsy, the type of surgical procedure, post operative management and survival.

Results: Of the 3052 hysterectomy analyzed, 5 harbored unsuspected malignancies, with an incidence of 0.16% (1/610). Of the 439 myomectomy analyzed, we found one case of unsuspecteted leyomiosarcoma. Cumulative incidence is 0.17% (1/583). All relevant clinical information did not evidence specific risk factors.

Conclusions: FDA estimates leiomyosarcoma risk for women undergoing hysterectomy or myomectomy for presumed fibroids at 1/498. Our finding supports FDA estimation, although several clinical aspects deserve specific reflections. A critical assessment of uterine morcellation in case of undiagnosed leyomosarcoma and its impact on gynecologic surgery and the limitations of the existing literature have to be discussed.

FM IV/ 45

HIGHER EXPRESSION OF ER IN RECURRENT PLATINUM-RESISTANT HIGH-GRADE SEROUS OVARIAN CANCERS

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Introduction: Endocrine therapy for hormone receptor positive epithelial ovarian cancer is an option and commonly used in heavily pretreated patients with no further chemotherapy possibilities or to extend chemotherapy free interval. Unfortunately, the benefit of this therapy is small with low response rates. Prognosis and treatment benefit depends on estrogen (ER) and progesterone receptor (PR) expression. The aim of this study is to determine the expression rate of ER and PR in a high-risk serous ovarian cancer cohort.

Methods: Matched primary and recurrent high-grade serous ovarian cancers collected between 1985 and 2003 at the University Hospital Basel within a Tissue Microarray were used for this study (n=80). All patients had complete debulking surgery and adjuvant platinum-based chemotherapy. Immunohistochemistry for ER/PR expression was analyzed by two independent pathologists. The scoring system included percentage and intensity of staining.

Results: All patients had at least 3 cycles of platinum-based chemotherapy, with 73 patients (91.3 %) receiving a full six-cycle course. ER expression was higher in chemotherapy-resistant primary tumors (33.3%) than in their recurrent counterparts (19.0%), and was also higher in chemotherapy-resistant compared to chemotherapy-sensitive primary tumors (33.3 vs. 23.1%).
PR expression was significantly higher in primary (27.5%) than in recurrent counterparts (13.9%) (p=0.046), and was higher in chemotherapy-sensitive primary (29.2%) than in their chemotherapy-sensitive recurrent counterparts (13.5%).

Conclusion: In this small unique collection there was an increased ER and significantly increased PR expression in primary compared to relapsed ovarian cancers and a higher expression of ER in chemotherapy-resistant cancers. ER targeted therapy therefore may be an option in ER positive chemotherapy-resistant disease.

FM V/ 50

IMPACT OF INTRAPARTUM MAGNESIUM SULFATE ON NEONATAL RESUSCITATION AND LONG-TERM NEURODEVELOPMENTAL OUTCOME IN NEWBORNS LESS THAN 33 0/7 WEEKS

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Introduction: Magnesium sulfate (MS) has been shown to significantly reduce the risk of cerebral palsy in infants born prematurely. Conversely, neonatologists are concerned about the higher need for resuscitation and mechanical ventilation at birth when using MS intrapartum (IP). MS is routinely used among women with pre-eclampsia. The main objective was to assess the association between IP use of MS and the need of resuscitation or respiratory support. Our secondary objectives were to assess the association between use of MS IP and long-term neurodevelopmental outcome.

Material and methods: Cohort study between January 1, 2005 and December 31, 2010 including all women delivering life born babies without major malformations between 24 0/7 and 32 6/7 weeks at University Hospitals of Geneva. Data on MS use, neonatal mortality, respiratory support (mechanical ventilation, CPAP), and long-term neurodevelopmental outcome at 18 to 24 months of corrected age (mental development index [MDI] and motor developmental index [PDI] of the Bailey scales of infant development II) were collected from the maternal, neonatal and pediatric medical records. MS was prescribed only for women with pre-eclampsia. Generalized estimating equations using binomial family were performed. All models were adjusted for predefined confounders (gestational age, birth weight, gender, multiples, lung maturation, placenta disruption, chorioamnionitis and premature rupture of membranes).

Results: A total of 533 women and 655 life newborns with a mean gestational age of 29 5/7 weeks were analyzed. Pre-eclampsia was diagnosed in 111 women and 106 received MS. Among newborns, 65 died (9.9%) and 200 (31.3%) required mechanical ventilation. A total of 320 infants were assessed at 18-24 months with mean MDI 90.3 (standard deviation [SD] 14.2) and/or mean PDI 84.7 (14.8). MDI or PDI scores <85 were found in 100/319 (31.3%) and 119/317 (37.5%) of the children, respectively.
Neonatal mortality tended to be decreased in infants exposed to MS (OR 0.38; 95%CI: 0.14-1.04). We found no association between MS and the need of mechanical support. MS use was neither associated with MDI (OR 1.50; 95%CI: 0.76-2.97, P=0.245) nor with PDI (OR 1.39; 95%CI: 0.71-2.71, P=0.334).

Conclusions: Intrapartum MS showed no increased need for mechanical ventilation in the preterm newborn. MS was not associated with better psychomotor development. The trend towards a reduced neonatal mortality among babies exposed to MS needs to be confirmed in larger studies.

FM V/ 51

THE IMPACT OF MAGNESIUM THERAPY ON MATERNAL AND NEONATAL PLATELET LEVELS IN HELLP SYNDROME

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Introduction: HELLP, an acronym for hemolysis, elevated liver enzymes and low platelets, is a pregnancy specific syndrome which contributes substantially to maternal and perinatal morbidity and mortality. The hematologic effects of magnesium sulfate administrated intravenously for eclampsia prophylaxis are largely unkown. The aim of this study was to examine the effect of intravenous magnesium on maternal and neonatal platelet count.

Patients and methods: In this retrospective study, 124 women with perinatal HELLP syndrome who delivered at the University Hospital of Berne between 2005 and 2010 were included . Maternal and neonatal platelet counts and magnesium levels were analyzed.

Results: A statistically significant correlation was found between predelivery maternal magnesium level and platelet count ($r=0.28$, $p=0.03$). Overall, platelet count increased significantly after administration of magnesium in cases with thrombocytopenia ($p<0.05$, paired Student's T-test). Subgroup analysis of women with thrombocytopenia at admission showed an increase in platelet count in women exposed to both prophylactic magnesium and glucocorticoids ($p=0.03$), but not in those receiving only magnesium or only glucocorticoid therapy .

Maternal and neonatal platelet counts correlated significantly ($r=0.21$, $p=0.02$), while maternal and neonatal magnesium concentration did not ($r=0.4$, $p=0.33$). No correlation was found between neonatal platelet count and maternal or neonatal magnesium concentration ($p=0.49$, and $p=0.34$, respectively).

Conclusion: In pregnancies complicated by HELLP syndrome only the simultaneous administration of glucocorticoids and magnesium shows a positive influence on platelet count.

FM V/ 52

ANGIOGENIC MARKERS SFLT-1 AND PIGF: A NEW DIAGNOSTIC TOOL FOR PATIENTS WITH SUSPECTED PREECLAMPSIA

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Introduction: Angiogenic and antiangiogenic factors such as soluble fms-like tyrosine kinase (sFlt)-1 and, respectively, placental growth factor (PlGF) play a major role in the pathogenesis of preeclampsia (PE). There is a growing body of studies focusing on the prediction of preeclampsia using these markers. However, none of these studies has focused on the clinical application of the angiogenic and antiangiogenic facors when PE is suspected, but not clearly manifested. The aim of this study was therefore to investigate the value of the sFlt-1/PIGF-ratio as a diagnostic tool to predict the development of PE in patients with unclear PE symptoms.

Material and Methods: In this cohort study a total of 208 singleton pregnancies were enrolled at the University Hospital of Bern between 2011 and 2014. In all patients, sFlt-1 and PlGF were analysed in peripheral blood using the ROCHE Elecsys Test. In the present study, we included 145 patients who did not fulfill the diagnostic criteria for PE, but showed partial symptoms such as hypertension, isolated proteinuria, neurologic symptoms or typical laboratory changes including elevated uric acid, elevated liver enzymes or decreased platelets. Predictive values of angiogenic factors for developing PE were analysed.

Results: Among the 145 patients with suspected PE at admission, 42 developed preeclampsia at delivery, while 103 did not. Receiver-operator curves (ROC) calculated for the sFlt-1/PIGF-ratio showed a significant positive correlation with PE, yielding an area under the curve (AUC) of 0.834. Furthermore, all PE cases were substratified into early-onset PE (delivery before 34 gestational weeks;n=22) and late-onset PE (delivery after 34 gestational weeks;n=20). The best test performance was obtained in the early-onset PE group, showing a ROC with an AUC of 0.897.

Moreover, a total of 21 patients had serial prenatal measurements to assess whether the serum marker shows changes while PE develops, and the test performance improves. ROC yielded an AUC of 0.778 and 0.942 for the first and, respectively, last measurement.

Discussion: Our data show that the sFlt-1/PIGF-ratio is clinically useful as an adjunctive diagnostic tool to predict the development of PE in patients with unclear symptoms, and therefore improves management of these patients. Serial measurements allow improved risk assessement of a subsequent preeclampsia. The use of this test helps taking clinical decisions, e.g. regarding hospitalization or outpatient follow-up, and helps to reduce costs.

FM V/ 53

ANGIOGENIC MARKERS SFLT-1 AND PIGF CAN BE USED TO PREDICT THE COURSE OF EARLY-ONSET PREECLAMPSIA

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Introduction: Angiogenic and antiangiogenic facors such as soluble fms-like tyrosine kinase (sFlt)-1 and, respectively, placental growth factor (PlGF) play a major role in the pathogenesis of preeclampsia (PE) and can be used clinically as adjunct tests to diagnose PE in unclear cases. However, it is not known if these markers can predict the course of PE. For optimal management of patients with PE, such a test would be clinically useful, e.g. for indication of administration of antenatal glucocorticoids. The aim of this study was to investigate the correlation between the sFlt-1/PIGF-values and time to delivery (TTD), being a surrogate marker for the severity of the course of PE.

Material and Methods: In a cohort study a total of 208 singleton pregnancies with PE or suspected PE were enrolled at the University Hospital of Bern between 2011 and 2014. In all patients, sFlt-1 and PlGF were analysed in peripheral blood using the ROCHE Elecsys Test. In the present study, only patients with overt PE at admission were analysed, consisting of 63 patients fulfilling the criteria for the diagnosis of PE. We analysed the correlation between angiogenic markers and TTD, using TTD as surrogate marker for severe course of PE. The results of angiogenic factors were not used clinically for indication for delivery.

Results: No significant correlation between angiogenic marker serum levels and TTD was found when all PE cases (n=63) were analysed (sFlt-1: spearman r= -0.16, p= 0.23; PIGF: spearman r= 0.01, p= 0.96; sFlt-1/PIGF ratio: spearman r= -0.09, p= 0.52). When we substratified all patients in early-onset PE and late-onset PE, however, we found a significant inverse correlation in the early-onset PE group (n=49) for the sFlt-1/PLGF-ratio (spearman r= -0.29, p= 0.048). When sFlt-1/PIGF ratio was below a cut-off of 125, all cases delivered after more than 48 hours.

Discussion: In summary our data show for the first time that in patients affected by early-onset PE, the sFlt-1/PlGF ratio correlates inversely with TTD. In our population, a sFlt-1/PIGF-ratio below a cut-off of 125 heralded a delivery beyond 48 hours. We therefore propose that sFlt-1/PlGF can be used clinically to predict the course of the disease in patients with early-onset PE.

FM V/ 54

AN IN VIVO ANIMAL MODEL SUGGESTS THE PATHOGENIC ROLE IN FEMALE OF WADDLIA, A BACTERIUM STRONLGY ASSOCIATED WITH HUMAN MISCARRIAGES

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Introduction: Waddlia, is a Chlamydia-related bacteria, emerging as a pathogen causing miscarriages and fetal deaths in humans. However, despite significant clinical evidence, little is known about the pathogenesis and mode of infection of Waddlia. We thus developed an in vivo mouse model to investigate the nature of Waddlia infection in female.

Methods: Waddlia was cultivated in amoebae for 7 days before infection. C57BL/6 mice were hormonally induced into luteal phase. One week later mice were injected with Waddlia, at various doses, into the uterine horn using a semi-rigid cannula. At day 2, 7, 14 and 21 post-infection, lung, liver, spleen, cervix/vagina (c/v), uterine horn and lymph nodes were extracted for Waddlia specific quantitative PCR, histology and immunohistochemistry. Micro-immunofluorescence was used to detect specific anti-Waddlia antibodies in the serum.

Results: Vaginal bacterial shedding, after inoculation, peaked on day 2 post-infection, decreased by day 4 (13-fold, $p<0.0001$) and was almost eliminated by day 7. Infection was completely resolved in the vagina by day 28. Bacterial burden in c/v increased 8-fold ($p<0.0001$) from day 2-14 and was significantly reduced by day 21. Evidence for systemic dissemination was found in the spleen, lymph nodes, lungs and liver with the highest bacterial load on day 14. Histopathology revealed lymphadenopathies, hepato-splenomegaly, liver necrosis and granulomas. Waddlia specific IgG antibodies were present in the serum by day 14 and peaked on day 28. IgG were still detectable by day 42. The IgG response contained low IgG3, high IgG2a and no detectable IgG1. Infection with lower doses, down to 10^5 Waddlia particles, still resulted in the presence of Waddlia in the different organs and elevation of IgG, though to lower titers. There was no detectable Waddlia in organ samples, nor detectable anti-Waddlia IgG in cases of heat-inactivated Waddlia infections.

Conclusions: Genital infection with Waddlia induces a systemic infection associated with lymphadenopathies, hepatosplenomegaly, liver necrosis and granulomas, but is quickly resolved in the urogenital area. In addition, a robust long-lasting Th-1 mediated immune response is observed. Organ bacterial burden and IgG specific humoral immunity is dose dependent and requires live Waddlia. These findings strongly suggest the pathogenic potential of Waddlia through genital infection.

FM V/ 55

PSYCHOLOGICAL LONG TERM MATERNAL AND PATERNAL OUTCOMES AFTER UTERINE ARTERY EMBOLIZATION FOR SEVERE POST-PARTUM HEMORRHAGE

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Introduction: Few studies investigated long term outcomes of uterine artery embolization after postpartum hemorrhage (PPH). Our aim was to study long term psychological impact between patients after embolization for PPH compared to patients after uneventful deliveries. Partners of both groups were also included.

Material and Methods: We conducted a retrospective cohort study of all women who experienced severe PPH treated by embolization in our institution between 2003-2013. The exclusion criteria were gestational age <24 weeks, and hysterectomy after embolization. These cases were matched (ratio 1:2) with a control group of uneventful deliveries without PPH in our obstetrical database of more than 30'000 patients. Matching criteria were maternal age, ethnicity, year and mode of delivery, parity, birth weight and gestational age. Obstetrical history was obtained by phone interviews, and post-traumatic stress as well as episode of depression were explored with the MINI (mini international neuropsychiatric interview) and TSQ (screening trauma score) questionnaires sent by post. The same questionnaires were sent to their partners.

Results: From 77 patients treated with embolization for PPH, 63 (81.8%), could be contacted and agreed to participate to this study. Those PPH cases were compared to 128 patients with uneventful deliveries (no PPH). The wish of a new pregnancy was similar between patients with and without previous embolization for PPH (p=0,675). A total of 66.7% and 60.2% of those patients did not want further pregnancies, respectively. However, their reasons strongly differ between both groups (p=0,001). Indeed, 69,9% of embolized patients mentioned psychic trauma after delivery complicated by PPH, whereas 75% of the control group judged their number of children enough. Compared to the patients with uneventful deliveries, patients after embolization showed increased risk of depressions (MINI, p=0.013) and post-traumatic stress disorders (TSQ, p=0.001). Regarding their partners, answer rates were low (28-40%). Partners from patients with previous embolization for PPH showed a trend for depressions (MINI, p=0.042) and post-traumatic stress disorders (TSQ, p=0.113).

Conclusion: After embolization for PPH, absence of new pregnancy is mainly the consequence of a traumatic experience for both patient and partner. Our care should favor screening of the post-traumatic stress. Regarding this result, our care should include the post traumatic stress screening.

FM VI/ 60

RECURRENT URINARY TRACT INFECTIONS – MULTIMODAL THERAPY INSTEAD OF LONG-TERM ANTIBIOTIC TREATMENT

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Introduction: Recurrent urinary tract infections (rUTI) are commonly treated with antibiotics. The increasing resistance rates of pathogens to antimicrobial agents have, however, stimulated interest in nonantibiotic alternatives for the prevention and prophylaxis of UTIs. An analysis was performed to assess success rates of a standard multimodal therapy in women with recurrent UTIs. Recurrent UTIs were defined as two or more UTIs per 6 months or three or more UTIs per 12 months according to EAU guidelines 2013.

Material and Methods: We conducted a chart review of 103 women with rUTI who were treated from January 2013 to November 2014 at a tertiary bladder center using a multimodal therapy and prophylaxis concept. Diagnostic assessment was composed of medical history, gynecological examination, pelvic floor and kidney ultrasound, cystoscopy, tests for chlamydia, ureoplasmas, and mycoplasmas. Initial short-term antibiotic therapy according to resistance profile of confirmed pathogens was given to treat the UTI, urethritis or cystitis cystica, respectively. During the multimodal therapy, no postcoital or long-term low-dose antibiotics were used.

Results: A total of 103 women with rUTI were included in the analysis. The median age was 51 (IQR 29.4 - 62.9 years old), and 50.5% (52/103) were postmenopausal. The duration of time during which these women suffered from rUTI ranged from six months to 47 years (IQR 1.5 – 10 years), with a median of 4 years. The standard multimodal therapy and prophylaxis concept included intensive counselling together with discussion of micturition diaries, local estrogen therapy, pessaries, specific intimate care with local cream and wash lotion, phytotherapy such as bladder tea or cranberry juice.
In total, 53.4% (55/103) of women were symptom-free for at least 6 months, while 46.6% (48/103) still experienced at least one infection. For premenopausal women the success rate was 58.8% (30/51), while 48.1% (25/52) of postmenopausal women were cured.

Conclusions: The analysis shows that a standard multimodal therapy can achieve good long-term results even without long-term low-dose antibiotic treatment in women with recurrent urinary tract infections.

FM VI/ 61

INCIDENCE AND RISK FACTORS FOR MESH EROSION AFTER LAPAROSCOPIC-ASSISTED PELVIC ORGAN PROLAPSE REPAIR BY LATERAL SUSPENSION WITH MESH: A NESTED CASE CONTROL STUDY

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Introduction: Vaginal erosion is one of the main complications of mesh use in pelvic organ prolapse (POP) reconstructive surgery. It may lead to reoperation and impaired quality of life. Risk factors of mesh erosion after laparoscopic POP repair are poorly described. Data arise from few studies with limited subject samples and short follow-up. Our objective was to estimate the incidence and identify the risk factors for mesh erosion after laparoscopic lateral suspension with mesh for the treatment of POP.

Methods: We conducted a case control study among 480 women who underwent POP repair by laparoscopic lateral suspension with mesh from January 2004 to October 2012. Cases (n=18) were women who presented mesh erosion following the first intervention through December 2013. Controls (n=133) were women randomly selected from the same cohort who did not have erosion.

Results: The cumulative incidence of mesh erosion was 3.8 % with a mean follow-up of 56.3 months (range 2.2-104.6). Mean age and mean BMI were similar between groups. In univariable analysis, risk factors included smoking (odds ratio (OR) 7.0; 95 %confidence interval (CI) 2.3-21.8; P<0.01), history of POP or UI surgery (OR 6.3; 95 % CI 2.2-18.4; P<0.01) and previous total hysterectomy (OR 6.3; 95 % CI 2.2-18.4; P<0.01). The use of Mersilene® mesh compared to macroporous polypropylen mesh (OR 5.3; 95% CI 1.2-24.0; P=0.03), placement of a posterior mesh (OR 8.6; 95% CI 2.4-31.0; P<.01), and the use of synthetic glue (Glubran®) to fix the mesh to the vagina (OR 10.0; 95% CI 1.1-90.6; P=0.04) were all associated with a significant increased risk of erosion. There were no associated total hysterectomies in our cohort. Subtotal hysterectomy was not a risk factor (OR 1.1; 95% CI 0.4-3.2; P=1.0). In multivariable analysis, smoking (OR 10.4 95% CI 2.3-46.5; P<0.01), Mersilene® mesh (OR 13.0; 95% CI 1.5-110.6: P=0.02), and posterior mesh placement (OR 5.1; 95 % CI 1.2-21.8; P=0.03) remained significant risk factors. The association between increased risk of erosion and both previous POP or UI surgery and the use of synthetic glue remained high although not statistically significant. The association between erosion and the history of a previous total hysterectomy was not any more a risk factor.

Conclusions: The risk of mesh erosion is low after laparoscopic POP repair with mesh. It may be minimized by using the appropriate mesh material, by taking into account specific patients characteristics such as tobacco use, and by avoiding posterior mesh.

FM VI/ 62

EFFICACY OF SOLIFENACIN FOR THE TREATMENT OF SYMPTOMATIC DETRUSOR OVERACTIVITY IN OBESE WOMEN

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Introduction: Overactive Bladder (OAB) syndrome is common in adult women. Obesity, age, gender, smoking, alcohol or caffeine intake has been proposed has risk factors for the prevalence and/or severity of OAB. In particular, a positive association between Body Mass Index (BMI) and urinary disorders has been reported. Obese patients could show more severe OAB at baseline. Only two papers have evaluated the efficacy of two different antimuscarinics in obese patients complaining OAB symptoms: Trosphium Chloride XR 60 mg and Darifenacin 7,5 and 15mg. Both studies concluded that BMI does not effect, in a clinically relevant manner, the efficacy or tolerability of these two antimuscarinic drugs; however a greater BMI was associated with a higher probability of receiving the higher Darifenacin dose. The aim of our study was to evaluate the efficacy of Solifenacin 5 mg for the treatment of Detrusor Overactivity (DO) comparing women with normal weight to overweight.

Methods: We prospectively recruited women with urinary incontinence symptoms and urodynamic diagnosis of DO from 01/2006 to 06/2010. They All patients were assessed with a specific validated questionnaire that included obstetric, medical, surgical history, standardised questions on pelvic floor dysfunction and were examined by two trained uroGynecologists. Exclusion criteria: urinary tract infections, diabetes mellitus, neurological disease, genital prolapse ≥ stage II. All patients were studied with urodynamics, using a standardized protocol in accordance to the Good Urodynamic Practice Report of the International Continence Society (ICS). Solifenacin 5 mg once daily was prescribed for 12 weeks. Drug efficacy was assessed using a 3-point symptoms scale. All women were divided in groups depending on BMI value (group 1: ≤25; group 2 > 25; group 2b; BMI>30).

Results: 327 patients completed 12-week therapy (group 1: 138; group 2:189 and 2b: 66) Patient in group 1 were compared with patients in group 2 and 2b. We didn't find any statistical difference in term of cure rate (group1 (92/138,66,7%) vs group2 (118/18,62.4%) (p= 0.50) and group2b (42/66, 63.3%)(p=0.75)) and adverse effects (group1 (13/138, 9,4%) vs group2 (18/189, 9,5%)(p = 1)). The distribution of the type of DO diagnosed was similar in group 1 (PDO: 20 /138, 14.5%) and group 2 (PDO: 39 /189, 20.6%), (p = 0.19).

Conclusions: Solifenacin 5 mg seems to be subjectively effective and well tolerated, regardless BMI, without any need of increasing therapy dose.

FM VI/ 63

URETHRAL BULKING FOR RECURRENT STRESS URINARY INCONTINENCE AFTER MIDURETHRAL SLING FAILURE

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Introduction: Bulkamid(R) is a non-resorbable polyacrylamide hydrogel made of cross-linked polyacrylamide and water and is used as a bulking agent to treat stress urinary incontinence. There are only few retrospective studies on the use of urethral bulking agents for recurrent stress urinary incontinence after midurethral sling failure.The primary aim of this study was to assess the effectiveness of Bulkamid in treating recurrent stress urinary incontinence.

Material and Methods: Since September 2009, 60 patients with a history of failed mid-urethral tapes underwent treatment with Bulkamid. Bulkamid was injected at the mid-urethra and the position was postoperatively verified using ultrasound. Efficacy of the procedure (i.e. cured, improved, failed) was assessed at 6 months and 1 year, both objectively and subjectively. Assessments included cough tests (lying and standing), 24 hour pad test and visual analogue scores. Complications were evaluated at each follow-up visit.

Results: Six month follow-up was available for all 60 patients treated with Bulkamid. Forty-eight (80%) patients completed 1 year follow-up. The median time difference between midurethral tape placement and first Bulkamid injection was 15.5 months (range 1–119 months). The mean (SD) volume of Bulkamid injected was 1.84 (0.4) ml (range 1.0–3.0 ml). In total, 25/60 (41.7%) and 13/48 (27.1%) were objectively and subjectively cured at 6 and 12 months, respectively. There were 28/60 (46.7%) patients improved at 6 months and 27/48 (56.3%) at one year. Failure was found in 7/60 (11.7%) at 6 months and 8/48 (16.7%) at one year follow up. In terms of complications, at 6 months follow up patients had mean (SD) post-void residuals (PVR) of 36.3 (35.4) ml (range 0–150), from which 5/60 (8.3%) patients had 100 ml or higher PVR. Although 5/48 (10.4%) patients reported de novo urge at 12 months follow up, none of the patients experienced urge incontinence after Bulkamid treatment. Other common complications following bulking agents, e.g. urinary tract infection, acute retention, haematuria etc., were minimal in short term postoperative follow up and none-existent at 12 months follow up.

Conclusions: This prospective study indicates favourable success rates and low complication rates using urethral bulking with Bulkamid for recurrent stress urinary incontinence after midurethral sling failure.

FM VI/ 64

HYSTEROSCOPIES AND HYSTERECTOMIES IN SWITZERLAND BETWEEN 1998 AND 2013

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Introduction: Hysterectomy (HE) is a common gynecologic procedure which is competed by the less invasive hysteroscopy (HSC) for the treatment of uterine disorders. The aim of this study was to determine the status quo of these surgical procedures over the last 16 years in Switzerland in regard to is to evaluate their frequency, patient age, and hospital stay.

Materials and methods: Retrospective analysis of the continuously collected ASF data records (Arbeitsgemeinschaft Schweizerische Frauenkliniken, Sevisa AG) for patients with therapeutic HSC or HE between 1998 and 2013. Between 45 and 75 Swiss teaching gynecologic hospitals contributed their records, depending on the year. The data set consists of 1'238'010 records. Each data record (case) corresponds to one patient and includes diagnoses, performed procedures, risk factors, morbidity, and complications in ob/gyn. 2007, about 40% of all inpatient cases in Switzerland were covered, and 50 of the 71 hospitals were participating in 2010. 2005, the data collection sheet was adapted in order to address the changes in ob/gyn. Statistics were undertaken by means of ANOVA and x2 test, as appropriate. Values as % or mean±standard deviation.

Results: Therapeutic HSC and HE were performed in a total of 98'902 cases, corresponding to 8 % of all gynecologic ASF cases: 17.5 % HSC, 32.3 % vaginal HE, 15.9 % laparoscopic (LSC) HE, and 34.3 % abdominal HE (altogether 82.5 % HE). Overall patient's age was 52.3±13.2 years and remained comparable over the years, but was the highest for patients with vaginal HE (55.3±14.3 years), followed by abdominal HE (52.5±12.6), HSC (49.3±12.8), and LSC (48.8±10.5) (p<.001); the principal change was a steady aging from 53.3±14.6 in 1998 to 58.3±14.3 in 2013 for vaginal HE. Since 1998, overall hospital stay was almost halved from 10.2±5.4 days to 5.3±5.4 (p<.001). In 2013, hospital stay for HSC, vaginal, LSC, and abdominal HE was 2.3± 3.7, 6.1±4.1, 5.3±2.4, and 9.3±9.1 days, resp. (p<0.001). The percentage of vaginal and abdominal HE decreased from 33.8 % to 22.2 % and from 54.3 % to 17.0 %, resp., while LSC increased from 2.0 % to 32.9 %; HSC increased from to 9.9 % 27.9 %.

Conclusion: In Switzerland, therapeutic HSC and HE account for 8 % of gynecologic cases. Over the last years, the less invasiv LSC procedure and the minimal invasive HSC continue to be on the rise. These changes probably contribute to reduce the length of hospitalization and add to the reduction of total health care costs.

FM VI/ 65

HPV VACCINATION IN SWITZERLAND: RESULTS OF A NATIONAL SURVEY IN 2014

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Since 2007, the recommendation in Switzerland is to vaccinate female teenagers and young women against HPV (human Papilloma virus) to prevent the development of cervical cancer. To generate baseline information needed for the evaluation of this recommendation, the Swiss Federal Office of Public Health (SFOPH) has commissioned a survey in 2014 on vaccination coverage, reasons for and against the vaccination, risk factors and cervical screening behavior.

Materials and methods: A professional provider conducted computer assisted telephone interviews based on a questionnaire provided by the SFOPH. Randomly selected participants received an information letter prior to the telephone contact. Respondents could choose whether to answer sensitive questions by telephone, on paper or online. Analysis is based on 3588 interviews, whereof 2414 pertain to 18 to 24 year-old and 1174 to 25 to 49 year-old women.

Results: National vaccination coverage in 18 to 24 year-olds with at least one dose was 53 %. Main reasons for vaccination were the individual wish for protection from cervical cancer (50 %) and the recommendation by the physician (27 %) or school health service (23 %). Reasons not to vaccinate were not belonging to the target group (34 %), lack of information (27 %), fear of side effects (18 %), and being against vaccination(s) in general (14 %).

Three quarters of the 18 to 24 year-olds and 98 % of the 25 to 49 year-olds practiced cervical cancer screening by pap smear. Screening frequency was high: 78 % of the younger women (65 % of the older women) have a cervical smear at least once a year. Three percent of the women reported to have had genital warts during their lifetime. Of the young, 68 % think that after vaccination cervical screening is still advisable at the same frequency, 26 % would screen less often, 1 % would abandon screening, 6 % do not know.

Conclusions: HPV vaccination in Switzerland is well accepted, but vaccination coverage is still far from the target of 80%. While most young women are willing to vaccinate there seems to be a need to improve access to information on the vaccine. Cervical screening is widespread and much more frequently done than recommended. We found no indication for a detrimental impact of HPV vaccination on cervical screening behavior.

Poster Präsentation und Ausstellung
Poster présentation et exposition

P I - P VI Poster

P I/ 10

INCREASE IN VAGINAL DELIVERY RATES IN HIV-INFECTED MOTHERS IN SWITZERLAND

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Introduction: Mother-to-child (MTC) transmission of HIV is very low with effective antiretroviral therapy (ART). Swiss recommendations for the prevention of HIV MTC transmission were updated in January 2009 and recommended vaginal deliveries for women with undetectable HIV viral load (VL) (< 50 copies per milliliter) and not obstetrical contraindication. Our aim was to explore the impact of change in guidelines on the rates of vaginal deliveries among HIV-positive women in Switzerland.

Methods: We analyzed data on HIV-positive pregnant women enrolled in the Swiss Mother & Child HIV Cohort Study between 2002 and 2014 and classified deliveries as occurring pre- or postpublication of national guidelines (2009).

Results: Overall, 565 complete pregnancies and 612 deliveries of HIV-infected women were documented between 2002 and 2014. 27% (153/565) women were diagnosed with HIV during pregnancy. 141/706 (19%) documented pregnancies lasted less than 24 weeks; of those 88 (62%) were terminations, 49 (35%) were spontaneous abortions and 4 (3%) abortions were not further specified. Combination ART was used in almost all pregnancies (98%, 555/565), and 66% (373/565) of women conceived on ART. 429 of 491 (87%) women with documented VL at delivery achieved an undetectable VL. The proportion of vaginal deliveries increased from 36/311 (12%) before 2009 to 30% (76/254) afterwards. Elective cesarean section (CS) rates decreased from 215 /311 (69%) to 121/254 (48%) accordingly (figure 1). 93/121 (77%) of women with elective CS had an undetectable VL at delivery. The overall transmission rate of HIV was 0.7% (4/612) with no MTC transmission reported since 2009.

Conclusion: The proportion of vaginal deliveries in HIV positive women has more than doubled since the change in national guidelines. However, the rate of vaginal delivery remains low indicating that there may be still missed opportunities for women with fully suppressed HIV VL to deliver vaginally. It is crucial to motivate pregnant women with HIV to participate in the MoCHiV study in order to guarantee meaningful surveillance in the future.

P I/ 11

PLACENTAL ALPHA-MICROGLOBULIN-1 IN COMBINATION WITH TRANSVAGINAL ULTRASOUND FOR PREDICTION OF PRETERM BIRTH

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Introduction: In patients with symptoms of preterm labor the measurement of the cervical length by transvaginal ultrasound alone has limited value regarding the prediction of preterm birth. The placental alpha-microglobulin-1 (PAMG-1) is a protein that can be found in high concentrations in the amniotic fluid and in lower concentrations in the vaginal secretion in patients with signs of preterm labor without rupture of membranes. This study aims to evaluate the clinical value of a novel point-of-care test for detection of PAMG-1 in the vaginal secretion.

Patients, materials and methods: Patients with symptoms of preterm labor between 24 and 37 weeks of gestation were included into the study group. Gestational age-matched asymptomatic controls were included. Measurement of cervical length by transvaginal ultrasonography and a vaginal swab for the PAMG-1 point-of-care diagnostic kit were obtained. The test was performed according to the manufacturers recommendations. Primary endpoint was the time to delivery. The practicability of the PAMG-1 bedside test is the secondary endpoint.

Results: The analysis showed a positive predictive value (PPV) and negative predictive value (NPV) of 100% and 69,5%, respectively, regarding the endpoint of birth within 7 days, and a PPV of 100% and NPV of 42.8% regarding birth within 14 days. These values were independent of cervical length measurements. The diagnostic kit for detection of PAMG-1 was easy to handle with no learning curve, and highly accepted by patients and staff.

Conclusions: The novel bedside PAMG-1 test has a higher positive predictive value compared to other commercially available bedside tests for preterm birth such as fetal fibronectine or IGFBP-1. Despite the low sensitivity and NPV, the test might be a clinically useful test if combined with cervical length measurement to predict preterm birth in patients with and without symptoms of preterm birth. Regarding the practicability the PAMG-1 test is easy and straightforward during routine examination.

P I/ 12

BREASTFEEDING IN WOMEN HAVING EXPERIENCED CHILDHOOD SEXUAL ABUSE

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Aims: Childhood sexual abuse (CSA) is known to have a serious impact on general and obstetrical health. As breastfeeding includes several triggers for memories on abuse experiences it is likely that CSA will influence decisions for breastfeeding as well as its implementation in daily life. As breastfeeding is important for the long-term health of the child we investigated breastfeeding in women having experienced childhood sexual abuse (CSA).

Methods: Data on breastfeeding was collected within a research project on labor experiences from women with CSA. Recruitment of study participants was performed in cooperation with the German "Frauennotruf", a society providing care for sexually abused women. A specialist in CSA working at the support center conducted a semi-structured interview of at least three hours with each of 132 women with CSA. Of these, 85 (64.4%) returned a completed questionnaire. 170 controls were recruited in cooperation with different local kindergartens.

Results: Women with CSA experiences described significantly more often problems than women without such experiences during the early labor period (60%/ 34%; $p < 0.001$). A total of 96.5% of women after CSA initially started breastfeeding and 74% of these mentioned problems like mastitis, pain or nipple lesions. Mastitis was reported significantly more often after a history of CSA (49%/ 29%; $p < 0.001$). In 21% of women with CSA breastfeeding was a trigger for memories of sexual abuse. In most cases (71%) these memories had an influence on the feeding habits, in 24 % it leaded to stop breastfeeding. Women with history of CSA described feelings like panic, agitation, distrust towards health workers, fear of motherhood, and of becoming a perpetrator for their child as factors seriously interfering with successful breastfeeding. Altogether, 58% of women with CSA had experiences with dissociation. During breastfeeding 20% considered dissociation as helpful and 22% as disturbing.

Conclusions: In addition to the growing list of potential consequences of CSA experiences, CSA seems to be associated with an increased number of problems when breastfeeding. Most women with CSA intend to breastfeed even though there are particular challenges. To give one example, memories of CSA might be triggered by skin contact with the baby and can lead to dissociation. A support adjusted to the specific needs of these women during pregnancy and lactation period can help to improve breastfeeding and the early mother-child relationship.

P I/ 13

OUTCOME OF MYOMECTOMY DURING CESAREAN SECTION

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Introduction: Uterine leiomyomas are the most common uterine neoplasm. The incidence of uterine leiomyomas in pregnancy varies between 1.6 and 10.7%, being more common among women with advancing age. Some obstetricians refrain from performing myomectomy during cesarean as they fear increased incidence of complications. Objective of our analysis was to evaluate outcome of myomectomy during cesarean section.

Methods: A retrospective cohort study was performed at the university hospital of Zurich between 2002 and 2013. Included were all women with cesarean sections with uterine leiomyomas, singleton pregnancies, and completed 22 weeks of gestation. The cesarean had to be performed by a consultant. Exclusion criteria were multiple pregnancies, placentation disorders (placenta accreta, increta, percreta), preeclampsia/HELLP, primary coagulopathies, cesarean sections in 2nd stage of labor and cesarean sections with additional surgical interventions. A multivariate regression analysis was performed to evaluate an association of myomectomy during cesarean with adverse outcome adjusting for localization of the leiomyoma (intramural+submucousal, subserosal+pedunculated), multiple leiomyomas, size of leimyomas (≥5 cm, ≥3cm), obesity (BMI ≥ 30 kg/m2), maternal age (≥40 years), fetal birth weight (≥4kg), and type of cesarean (primary cesarean or secondary cesarean in first stage of labor, repeated cesarean). Measured outcome parameters were increased estimated blood loss, delta of hemoglobin pre- and postoperatively, use of additional uterotonics, and increased operation time.

Results: The search included 162 women with uterine leiomyomas during cesarean delivery of whom 48 underwent concurrent myomectomy. Myomectomy during cesarean was not associated with adverse outcome. Size of leiomyoma ≥5 cm was associated with an increased risk for estimated blood loss ≥500ml (adj. OR 2.73 CI 95% 1.20-6.23, p=0.02). Increased drop in hemoglobin (≥20g/l) was observed in women aged 40 years or older (adj. OR 2.36 CI 95% 1.04-5.39, p=0.04). Prolonged operation time (≥45 minutes) was seen in repeated cesareans (adj. OR 3.17 CI 95% 1.38-7.26, p=0.01). Additional use of uterotonics was observed in obese patients (adj. OR 4.90 CI 95% 1.07-22.51, p=0.04). There were no cases of hysterectomy or blood transfusions.

Conclusion: Myomectomy during cesarean section performed by an experienced obstetrician is safe in selected patients without additional preexisting risk factors.

P I/ 14

INTRAHEPATIC CHOLESTASIS IN PREGNANCY (ICP): PREDICTION OF ADVERSE NEONATAL OUTCOME

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Introduction: ICP is characterized by a generalized pruritus associated with elevated serum bile acids (BA) and/or liver enzymes in the third trimester with spontaneous improvement after delivery. ICP carries a significant risk for the foetus. Nowadays the use of ursodeoxycholic acid (UDCA) is recommended as initial treatment for ICP as well as labour induction at 37 to 38 weeks of gestation. The aim of our study was to evaluate if there exists a BA cut-off at which the risk of adverse neonatal outcome is significantly increased.

Material and methods: Retrospectivly, patients with ICP (pruritus in the third trimester with elevated (>10µmol/l) fasting BA) and treated with UDCA were included in our study. Adverse fetal outcome was defined as emergend cesarean section (CS) for suspected fetal distress (class II and III CTG), and/or 5'Apgar<7, and/or arterial pH <7.1. Serum BA concentrations at diagnosis, last before delivery and percentage decrease were those with and without adverse neonatal outcome. Data analysis was performed using Prism 5 for Mac OS X.

Results: A total of 55 patients were included in our study. Mean gestational at diagnosis was 30.4±4.6 weeks. Cases with adverse outcome (n=16) had higher BA concentrations at diagnosis than those with normal outcome (n=39) (46.4±26.1 vs. 39.8±37.1µmol/l; p<0.05) while no difference was found between BA at delivery (30.1±14 vs. 26.2±13.8µmol/l; p=0.24) or percentage of decrease (65.3±21.1% vs. 62.9±25%). A ROC curve was constructed to describe the relationship between sensitivity and false-positive rate of BA at diagnosis in predicting adverse outcome. The AUC was 0.68 (95%CI 0.5-0.86) (p=0.04). A BA concentration of >35µmol/l is associated with a LR of 4.88 for adverse outcome (sensitivity 62.5%, specificity 87,2%). 41/55 (74.5%) of cases experienced a decrease of BA with UDCA treatment. Of interest, this decrease in BA was more pronounced in cases with adverse outcome (81.3% vs. 28.2%; p<0.0007).

Conclusion: Adverse neonatal outcome in ICP seems to be more influenced by the BA concentration at diagnosis. Treatment does improve maternal symptoms but not reduce adverse outcome.

P I/ 15

NEUROREGENERATIVE FUNCTIONS OF TRANSNASAL DELIVERED HUMAN UMBILICAL CORD STEM CELLS IN A MODEL OF PRETERM HYPOXIC-ISCHEMIC BRAIN INJURY IN RATS

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Neonatal hypoxic-ischemic brain injury remains an important cause for long-term neurological deficits. Until now no cure has been found to treat such lesions. Transnasal delivery of Wharton's Jelly mesenchymal stem cells (WJ-MSC) might be the ideal therapeutic approach to restore the damaged brain. Therefore our goal is to study the neuroregenerative potential of WJ-MSC that were transnasally delivered in vivo.

Wistar rat pups (P4), previously brain-damaged by combined hypoxic-ischemic and inflammatory insult, received WJ-MSC: The heads of the rat pups were immobilized and 3 µl drops containing the cells (50'000 cells/µl) were placed on one nostril allowing it to be snorted. This procedure was repeated twice, alternating right to left nostril with an interval of one minute between administrations. The rat pups received a total of 600'000 cells. Animals were sacrificed 7 days after the application of the cells. Fixed brains were collected, embedded in paraffin or snap frozen and sectioned. Several immunohistochemical analyses followed. Additionally RNA was extracted from the slides to perform real-time PCR analysis.

Animals treated with transnasally delivered WJ-MSC showed a slight decreased gliosis compared to untreated animals at protein level. There was no difference between the treatment groups regarding the neuronal loss or myelination at protein level. At mRNA level though the treated rats restored the neuronal loss as expressed by Map (microtubule-associated protein)-2 levels compared to the untreated animals.

Our data show that transnasal delivery of WJ-MSC to the newborn brain after perinatal brain damage has a slight neuroregenerative potential at this concentration. Further studies should address the dosage and frequency of administration of the cells to better ascertain the regenerative potential. If the positive effect might be confirmed, the non-invasive transnasal delivery of stem cells to the brain may be the preferred method for stem cell treatment of perinatal brain damage.

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P II/ 20

CHRONIC LOWER ABDOMINAL PAIN IS COMMONLY ASSOCIATED WITH PELVIC CONGESTION SYNDROME

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Summary: Pelvic congestion syndrome (PCS) is defined as chronic pelvic pain caused by incompetence of ovarian (OV) and pelvic veins (PV). The aim of this study was to investigate the prevalence of symptomatic, dilated OV and PV in pre- (PreMP) and post-menopausal (PMP) women. Additionally, we wanted to define diagnostic criteria (based on medical history and imaging) that allow for simplified characterization of patients who might be suffering from PCS.

Methods: We retrospectively reassessed abdominal CT scans performed in the Radiology Department of our institution from 01.01.2013 till 30.06.2014 and measured the left and right OV diameters as well as the parauterine plexus. We then investigated the radiological reports to evaluate if these findings were noticed, reported and interpreted. Finally, we correlated the findings with clinical parameters as documented in the Gynecological files.

Results: CT scans of 2402 women were assessed over a time period of 1.5 years (567 PreMP, mean age 37±8 and 1835 PMP, mean age 70±12). PreMP and PMP women did not statistically differ in terms of ethnicity, height, BMI, gravidity, parity and birthweights of children. We found dilated OV (diameter ≥ 6 mm in axial plane) or parauterine varicosis in 294 (12.2%) of patients (20.6 % of all PreMP and 9.6% of PMP). Undiagnosed chronic or recurring pain was documented in 60% of PreMP and 1.8% of PMP women with ovarian or parauterine varicosity. Therefore, the prevalence of symptomatic, dilated OV or PV in our study was 4.4% (12% in PreMP and 2% in PMP women). Pain was mainly localised in the lower abdomen and was associated with urological symptoms like dysuria, pollakisuria and urge but no infection ($p<0.05$, respectively).

Conclusion: PCS is an underdiagnosed and undertreated disease. In our study group almost 12% of premenopausal women had symptomatic, dilated OV or PV. Awareness of this condition needs to be raised amongst Gynecologists as specific treatment in the form of interventional occlusion is possible.

P II/ 21

INTERACTION OF TUMOR-EXTRACELLULAR MATRIX MAMMARY PROGENITOR CELLS DURING BREAST DEVELOPMENT

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Introduction: Multipotent mesenchymal stem cells (MSCs) require signals from their mircroenvironment in order to direct their tissue specific differentiation. The mircroenvironment consists of a cellular as well as a non cellular component referred as extracellular matrix (ECM). A number of studies demonstrated the impact of ECM on activation and differentiation of mammary progenitor cells into mammary epithelial cells. We aimed to investigate the interaction of tumor-ECM and mammary progenitor cells during breast development in regard to malignant transformation.

Materials und Methods: Malignant breast tumors were established by injection of 4T1 cells into the fat pad of Balb/c mice. Tumor mass were explanted and decellularized by the Deutsches Institut für Zell-und Gewebeersatz (DIZG). The decellularized tumor ECM was implanted into the developing mammary fat pad of 3-5 days old balb/c mice and subsequently harvested after 90 days for RNA extraction. Breast tumor established by 4T1 and murine breast tissue served as control for all experiments. A commercially available Breast Cancer Gen ARRAY (Quiagen) was used investigating the gene expression of 84 breast cancer specific genes.

Results: Gene expression analysis revealed an overexpression of 21 breast cancer specific genes in tumor ECM that was implanted for 90 days in the developing breast tissue such as Erbb2 Twist1, Muc1, Erbb2, Cdh13, VEGFa and additional 14 oncogenes.

Discussion: Identifying tumor ECM as an additional target in breast cancer is a promising step toward new therapeutic agents in the treatment of breast cancer leading to a better disease prognosis especially in therapy-resistent breast cancer. The present data suggests that tumor-ECM is an interactive compartment. However, further research is required to qualify tumor-ECM as a target in cancer treatment.

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ANGIOGENESIS GENE EXPRESSION ACROSS DIFFERENT LIFE STAGES IN NON-HUMAN PRIMATES (MACACA FASCICULARIS) IN NORMAL AND CANCEROUS MAMMARY GLAND - AN EXPLORATORY STUDY

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Aims: To investigate the impact of reproductive life stages on the angiogenesis gene expression profiles of the mammary gland in a primate model, in comparison to the hormone treated postmenopausal mammary gland and breast cancer (BC).

Methods: Comparative transcriptomic analyses were carried out using breast tissues from 37 female cynomolgus macaques at different life stages: Prepuberty (n=4), adolescence (n=4), adults in the luteal phase of the menstrual cycle (n=5), pregnancy (n=6), lactation (n=3) and postmenopause (n=5) and were compared to gland tissue treated with tamoxifen (TAM) (n=3) or with hormone replacement therapy (CEE&MPA) (n=3) as well as to cancerous gland tissue (BC) (n=4). Mammary gland RNA was hybridized to a rhesus macaque genome microarray. Differential gene expression was analyzed using ANOVA with adjusted p-values and cluster analysis. Angiogenesis markers ADAM12, bFGF, HIF-1α, KDR, Ki-67, MMP-9, PDGFB, PECAM-1, TGF-β, THBS1 and VEGFA were measured by qRT-PCR and analyzed using nonparametric group-wise statistics. Protein translation of ADAM12, bFGF, KDR, PDGFB, TGF-β and VEGFA was localized and quantitatively evaluated by immunohistochemistry (IHC).

Results: Gene Expression Arrays: Hierarchical cluster analysis revealed distinct separation of life stage groups, BC, TAM and CEE&MPA treated gland, respectively. PCR: ADAM12 mRNA was highest in juveniles and pregnant animals. MMP-9 and THBS1 mRNA were elevated in pregnancy. PDGFB, bFGF and TGF-β expression was highest in TAM and lowest in BC. In contrast VEGFA, KDR, HIF-1α, PECAM-1 and Ki-67 expression was highest in pregnant animals, KDR, HIF-1α, PECAM-1 expression was lowest in the adolescents. IHC: Each marker had different protein expression patterns and localizations. In general VEGFA was localized primarily to vascular endothelium. ADAM12, TGF-β and PDGFB stained positively both lobular epithelium and vascular endothelium; bFGF stained primarily ductal epithelium positive; and KDR was localized to periglandular and perivascular extracellular matrix. These findings suggest paracrine cross-talk between glandular and vascular structures.

Conclusion: Our data demonstrate distinct patterns of angiogenesis gene expression during breast development, (anti-)estrogenic treatment and in BC. Microanatomic relationships indicate paracrine signaling between glandular and vascular structures may be important.

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ITCH AND HITCH - LICHEN SCLEROSUS IS THE CHAMAELEON OF VULVAR DISORDERS!

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Introduction: Lichen sclerosus (LS) of the vulva is an inflammatory disease with an estimated prevalence of 1,7% in the general female population. Valuable data about LS are poor. Furthermore, many studies are based on the clinical suspicion of LS without histological confirmation. Aim of this study was to determine the correlation of clinical suspicion of LS with the histological findings.

Material and Methods: We performed a subanalysis of data collected during a drug trial comparing various treatments in patients with histological proven vulvar Lichen sclerosus. For the study 105 women with a clinical suspicion of LS were screened by experts in our specialized consultation for vulvar disorders between 04/2014 and 06/2014. During the screening visit we recorded symptoms with questionnaires and collected clinical findings in colposcopy. A cold cut biopsy was performed and sent for histology. Statistical analysis was performed with GraphPad Prism 5.

Results: We screened 105 patients with a strong clinical suspicion of Lichen sclerosus but only in 30 (28,6%) patients the diagnosis was histological confirmed. Clinical findings did not match histological results in 75 cases. The main differential diagnoses were: Lichen simplex chronicus n= 20, eczema n= 17 and mechanical irritation in 12 patients. Regarding the principal symptoms itching, burning and dyspareunia and their severity we were unable to find a statistical significant difference between the patients with histological proven lichen sclerosus and those with above mentioned vulvar disorders. Clinical findings were more evident in patients with proven LS. In those we found statistically significant more severe objective signs. They had more often hyperkeratosis (36,7% vs. 9,3%, respectively p 0.003), adhesions/synechiae (36,7% vs. 18,7%, respectively p 0.01) and atrophia (50% vs. 17,3%, respectively p 0.001).

Conclusion: Diagnosis of Lichen sclerosus remains a challenge even for trained experts. Symptoms may be similar to other vulvar disorders whereas severe clinical findings as hyperkeratosis and synechiae seem to be more specific clinical findings for lichen sclerosus. Biopsy is essential to determine further treatment and to inform patients about the chronical course of the disease. Patients with LS should have colposcopy on a regular basis because of the increased risk of squamos cell carcinoma.

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ISTHMOCELE AFTER CESAREAN SECTION: A LAPAROSCOPIC APPROACH IN RENDEZVOUS TECHNIQUE AS A NEW THERAPEUTIC OPTION

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Introduction: Isthmocele of the uterine scar is a rare but also underdiagnosed long term consequence of cesarean sections. It may cause gynecological symptoms such as abnormal uterine bleeding, pain and dyspareunia. Furthermore secondary infertility can occur. Treatment options are limited, mostly a hysteroscopic or hormonal approach have been described. We present the operative and follow up data of a laparoscopic excision of the scar in rendezvous technique.

Materials and methods: The internal database of the university hospital of Berne was searched for patients operated on isthmocele from 2008-2014. Operative data was acquired from the reports; the patients were then contacted in person for the follow up.
A total of 32 patients were operated, a follow up was obtained in 26 patients. The mean age at the time of operation was 34,6, mean BMI was 24,6. Five patients had two previous cesareans, all the others just one.

Results: All patients were operated by laparoscopic excision of the fibrotic tissue with simultaneous hysteroscopy demonstration of the dehiscence with translumination as described previously. The mean operating time was 130min, mean blood loss 42ml and no intraoperative complications occurred. Gynecological symptoms (bleeding disorders and pain) were the indication for the operation in 11 patients. In 8 patients (73%) the symptoms improved significantly after the operation. 22 patients were operated for secondary infertility or planned pregnancy. Of these patients 5 have not tried to get pregnant until know. Of the remaining 17 patients, 5 patients had a history of infertility treatment before the first pregnancy. 9 (53%) became pregnant. One of these had an early abortion one other a cesarean scar pregnancy. One is currently pregnant. 6 delivered a term pregnancy having a cesarean section. In two patients a uterine wall dehiscence was seen at the cesarean of which one was symptomatic.

Conclusion: The laparoscopic approach in rendezvous technique for isthmocele is a feasible, low risk operation. The outcome for uterine bleeding disorders and pain is good. For treatment of secondary infertility the operative correction of the isthmocele might be a component and can improve the pregnancy rate.

P II/ 25

HOW USEFUL IS THE GENETIC RISK SCORE IN THE PREDICTION OF BRCA1/2 MUTATIONS?

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Introduction: In Switzerland every year 5500 women and 50 men are diagnosed with breast cancer and 600 patients with ovarian cancer. These cancers are in 10-15% hereditary, often detected before the age of 50 years, and in up to 50% due to mutations in BRCA1/2. In this study we evaluate the usefulness of the Genetic Risk Score (GRS) in a Swiss clinical setting.

Material and Methods: Since June 2013, 189 patients received genetic counseling (186 women, 3 men). From these, 65% were recruited from the internal Tumorboards and a further 35% were referred directly due to a past history of cancer or a positive family history. The GRS was calculated based on the frequency of breast and ovarian cancer cases separated in the maternal and paternal family branch (cut-off 3 or more). The risk of having a BRCA mutation was calculated with computer models. The cut-off for the indication of genetic testing is at 10 to 20% risk of heterozygosity. Results are complete for 68 BRCA1 and 65 BRCA2 testings.

Results: BRCA1 mutations were found in 14 / 68 cases (20,6%), BRCA2 mutations in 7 / 65 cases (10,8%). Among BRCA1 mutations we found one distinct mutation in 2 independent families and among BRCA2 mutations 3 were found in the same family. We found 8 frame shift mutations, 6 missense/nonsense mutations, 1 insertion (Ashkenazim mutation), 1 deletion, 1 duplication and 1 splice mutation. The GRS of our patients with mutations varied from 3 to 10. Four cases with score 3, 4 or 10 each, 1 case with score 5, 6 or 9 each, 2 cases with score 7 or 8. The pedigrees with low GRS were either very small/not known (adoption), showed an inheritance pattern from father's side (prostate cancer), Ashkenazim descent or pancreatic cancer in the family.

Conclusion: BRCA mutations were found in our Swiss clinical cohort in 30% of patients tested, which is more than the expected cut-off of 10 - 20%. The GRS was very useful to define patients at need for genetic counseling. Next we aim to improve the score by including prostate and pancreatic cancers and Ashkenazim descent.

P III/ 30

CAN SPECIALISTS REASSURE PREGNANT WOMEN WHO DIVED WITHOUT KNOWING BEING PREGNANT? AN INTERNATIONAL STUDY WITH PADI & DAN

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Introduction: In recent years, scuba diving has become very accessible worldwide. Mean age of women scuba divers is similar to female fertility period, and many women dive yearly without knowing they were pregnant. These women are seeking advices concerning the potential teratogenicity of diving and whether they can continue the pregnancy or not. Nevertheless, little is known about scuba diving consequences on pregnancy and scientific literature is poor (old studies, no controls, few participants). As a precaution principle, all international diving agencies do not recommend scuba diving activity during pregnancy. The aim of our study is to report on pre- and postnatal characteristics of women scuba divers and pregnancy outcomes: can specialists reassure ladies who dived without knowing being pregnant?

Method: We conducted a retrospective observational survey, including female members of DAN International and PADI from 5 continents. A secured electronic questionnaire has been sent to a population of scuba diving women, assessing sociodemographical and scuba diving data (profile, gas), general health and obstetrical history. Female divers were allocated to 3 different groups: 1) without pregnancy; 2) diving off pregnancy; and 3) diving during pregnancy. Pregnancy outcomes were compared between the last 2 groups.

Results: A total of 2239 scuba diver women answered our online survey: among them 1186 had never been pregnant, 466 dived while pregnant and 587 only dived off pregnancy. Sociodemographical data and diving profile were similar between groups. There were no difference concerning miscarriage and premature birth between women who dived or not during their pregnancy. However, a significant difference was observed in term of prenatal fetal malformation between women who dived or not during their pregnancy (5 versus 0, $p<0.01$). All the 5 malformations, interesting heart, kidneys and brain, were derived from scuba dives during first trimester of pregnancy.

Conclusion: Despite precaution principles from all international diving agencies, a significant number of women dived during their pregnancy. For the first time, we demonstrated a strong association between fetal malformations and scuba diving during early pregnancy. In the light of this result, international diving agencies should replace their precaution principle by a negative pregnancy test before each scuba diving session. In case of scuba dives in early unknown pregnancy, early anatomic scan must be proposed.

P III/ 31

EXTERNAL CEPHALIC VERSION AS AN EFFICIENT METHOD OF IMPROVING FOETAL OUTCOME AND REDUCING CAESAREAN SECTION RATE: A SINGLE SITE EXPERIENCE

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Introduction: Breech presentation is associated with increased foetal morbidity and mortality. Caesarean section is the recommended delivery option in order to reduce foetal risks. External cephalic version can successfully reduce non-cephalic presentation, caesarean section rate and the complications related to both of them.

Material and methods: We analysed retrospectively all the cases of external cephalic version in our department from July 1996 to December 2014. From 455 breech presentations that represent 5.4% of all 8302 deliveries, 92 (20%) received an external cephalic version. All the interventions were made by the same operator. We offered maximum three attempts, depending on the pain supportability and the patient's motivation. The interventions were made under tocolysis and CTG monitoring with analgesia on request. Parity, estimated foetal weight, placental position, materno-foetal outcomes and cost efficiency of this approach were analysed.

Results: The overall success rate was 54.3%. Multiparous women, posterior localisation of the placenta and lower foetal weight (2500-3500g) were associated with increased success rates of 60%, 61% and 57% respectively. Among patients with successful external cephalic version, 69% delivered vaginally, 21% with vacuum extraction and 8% with caesarean section. Our caesarean section rate was twice lower than other similar studies. We found no major foeto-maternal complications compared to 1% in the literature. There were 4% minor complications: one patient had transient vaginal bleeding who did not required treatment and three patients had transient cardio-tocography changes, compared to 6% in the literature. Analgesia (Alfentanil 0.5 mg iv.) was requested by 36% of the patients during the intervention.

Conclusions: External cephalic version is a safe, cost effective and an efficient way in reducing the caesarean section rate, perinatal morbidity and mortality. The acceptability rate remains low, around 20%. We do recommend increased patient education in order to improve foetal outcome and reduce medical system costs.

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URINARY INCONTINENCE AFTER OBSTETRIC ANAL SPHINCTER TEAR: A 12 YEARS COHORT STUDY FOLLOW-UP

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Introduction: In 2009, Baud et al. published their study entitled "Pelvic floor dysfunction 6 years post-anal sphincter tear at the time of vaginal delivery". The evolution over the time of the differences observed in this first study has never been studied. Based on the 12 years follow-up of the same patient's cohort, the present study assessed for the second time urinary incontinence after obstetric anal sphincter tear.

Method: Among 13'036 women who gave birth vaginally to a singleton in cephalic presentation in pregnancies >37 weeks' gestation from January 1996 to December 2006, 196 women with anal sphincter tear, defined as 3rd- and 4th-degree perineal tears, and 588 matched controls were included in our first 2008 study. 258 patients who participated to the first study were currently contacted to answer again the same Urogenital Distress Inventory (UDI-6) questionnaire and Incontinence Impact Questionnaire (IIQ-7) grading urinary symptoms and impact on quality of life, respectively.

Results: 196 (76%) agreed to participate to this second study. Respondents and non-respondents were similar in term of sociodemographical data, mean Wexner andUDI-6 scores at the time of first study and obstetrical data at the time of the index delivery. Respectively 52 and 144 women with and without anal sphincter tears (ratio 1:3) returned the questionnaire. Both current groups were similar in term of sociodemographical and obstetrical characteristics. In our previous study 6 years after delivery, a significant statistical difference was observed for frequent urination when comparing women with and without anal sphincter tear (33 vs 13%, p <0.001). In the present study 12 years after delivery, frequent urination was reported similarly by women with and without an anal sphincter tear (44%, p=1.00). Neither the other items exploring urinary symptoms in the UDI-6 questionnaire nor the UDI-6 score were significantly different 6 and 12 years after delivery. The impact of urinary incontinence (IIQ-7 questionnaire) was similar when comparing women with and without anal sphincter tears 12 years after delivery. Perineal physiotherapy was still reported by 60% of women with a previous anal sphincter tear and 25% of controls (p<0.001).

Conclusion: Women who sustained an obstetric anal sphincter tear have similar urinary symptoms compare to women with an atraumatic vaginal delivery. Differences observed at 6 years post-delivery (frequent urination) were resolved at 12 years after delivery.

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PELVIC FLOOR DYSFUNCTION 6 YEARS POST UNCOMPLICATED VAGINAL VERSUS ELECTIVE CESAREAN DELIVERY: WHAT IS WORSE?

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Objective: To estimate fecal, urinary and sexual symptoms 6 years after uncomplicated vaginal versus elective cesarean deliveries.

Methods: Patients who delivered 6 years (2000-2004) before this study were chosen at random from our hospital database. Singleton elective cesarean deliveries (CS, cases) were compared to uncomplicated vaginal deliveries (vaginal tears < grade 2, VD, controls). Validated questionnaires grading fecal, urinary incontinence and sexual dysfunction were sent to 800 VD and 500 CS patients.

Results: A total of 309 (39%) women with VD and 208 (42%) with CS returned postal questionnaires in 2008 (p=0.286). Socio-demographic characteristics and fecal incontinence were similar between groups. After CS, women reported significantly less urge urinary incontinence (aOR 0.55; 95%CI 0.34-0-88) and stress incontinence (aOR 0.53; 95%CI 0.35-0-80) than after VD. However, pain associated with urination (aOR 1.58; 95%CI 1.01-2.49) and during sexual activity (aOR 2.5; 95%CI 1.19-5.26) was significantly more frequent after CS than VD.

Conclusion: Six years postpartum, VD is strongly associated with urinary incontinence, while CS is associated with sexual and urination pains.

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LONG TERM MENSTRUAL, FERTILITY AND SEXUAL MATERNAL OUTCOMES AFTER UTERINE ARTERY EMBOLIZATION FOR SEVERE POST-PARTUM HAEMORRAGE

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Introduction: Few studies investigated long-term outcomes of uterine artery embolisation after postpartum hemorrhage (PPH). Our aim was to study gynecological and obstetrical history, as well as potential sexual dysfunction, between patients after embolisation for PPH compared to patients after uneventful deliveries.

Material and Methods: We conducted a retrospective cohort study of all women who experienced severe PPH treated by embolization in our institution between 2003-2013. The exclusion criteria were gestational age <24 weeks, and hysterectomy after embolization. These cases were matched (ratio 1:2) with a control group of uneventful deliveries without PPH in our obstetrical database of more than 30'000 patients. Matching criteria were maternal age, ethnicity, year and mode of delivery, parity, birth weight and gestational age. Gynecological and obstetrical histories were obtained by phone interviews, and sexual function was explored using the FSFI questionnaire sent by post.

Results: From 77 patients treated with embolisation for PPH, 63 (81.8 %), could be contacted and agreed to participate to this study. These PPH cases were compared to 128 patients with uneventful deliveries (no PPH). Time to recover menstrual cycle after delivery (p=0.6), duration (p=0.657) and abundance (0.751) of menstrual period, dysmenorrhea (p=0.848), metrorrhagia (p=0.497) and amenorrhea (17%, p=0.945) were similar between patients with and without previous embolisation. There was no increase of sexual dysfunction between both groups FSFI questionnaire, p=0,967). Time to subsequent pregnancy (if desired) was longer for patients after embolisation compared to patients with uneventful deliveries (35 vs 24 months, p=0.064), despite borderline significant. Need for infertility treatment (p=0,207), number of subsequent pregnancies (p=0,500) were also similar between patients with and without previous embolisation. Reoccurrence of PPH is increased in case of previous embolisation compared to previous uneventful deliveries (33% vs 5,9%, p=0,015).

Conclusion: Our study demonstrated the absence of long term menstrual, fertility and for sexual adverse outcomes after uterine artery embolization for PPH. For patients who wanted subsequent pregnancies, there was no difference in the rate obstetrical complications, except for recurrence of PPH.

P III/ 35

POSTERIOR AXILLA SLING TRACTION AND ROTATION: A CASE REPORT OF AN ALTERNATIVE FOR INTRACTABLE SHOULDER DYSTOCIA

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Introduction: Shoulder dystocia remains an important cause of neonatal and maternal injury with a reported incidence between 0.6% and 1.4% of vaginal births. Maternal injuries include a higher rate of postpartum hemorrhage and fourth degree lacerations. Major neonatal injuries attributed to shoulder dystocia include brachial plexus palsies, fractures of the clavicle and humerus, hypoxic ischemic encephalopathy and in rare cases, neonatal death.

Fortunately, only a minority of shoulder dystocias result in neonatal injury with reported rates of injury ranging from 4% to 40% of cases. Nonetheless, shoulder dystocia remains a challenge to birth attendants as shoulder dystocia is among the four largest causes of monetary awards for obstetrical tort cases in the United States.

Case Report: We describe a case of major shoulder dystocia overcome with a modified technique that was first described in 2009 by GJ Hofmeyer and CA Cluver. The authors described a technique in which a soft plastic catheter sling is inserted around the posterior axilla and used for traction.

In our case, the shoulder dystocia was unresponsive to all conventional maneuvers during about 8 minutes. Prior to continue with a more drastic maneuver like bilateral intentional fetal clavicular fracture we decided to try the posterior axilla sling traction sustaining the fetal head. The classique technique as described in the first two case reports failed to deliver the posterior shoulder. We decided to try the external rotation by pulling on the sling; this maneuver has been assisted with the operator left hand that was reinserted into the posterior vagina pushing the posterior shoulder in a corkscrew fashion. This allowed us to perform a 180 degree rotation and to deliver the posterior shoulder in anterior position.

Discussion: There are continuous evidences that delivery of the posterior shoulder should be preferred as first attempt in the case of shoulder dystocia. In our case the position of the fetal arm and the space occupied by the operator's finger rendered impossible the finger traction of the posterior axilla. We think that this uncommon technique must be kept in mind as an alternative prior to consider drastic and morbid maneuvers.

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IDENTIFICATION OF THREE NOVEL GLYCANS THAT DISCRIMINATE BETWEEN SEROUS OVARIAN CANCER PATIENTS AND HEALTHY CONTROL

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Introduction: Altered levels of naturally occurring anti-glycan antibodies circulating in human blood plasma are found in different pathologies including cancer. In the current study we profiled the levels of plasma-derived antibodies to negatively charged (sialylated and sulfated) glycans, using developed "in-house" high-throughput suspension glycan array.

Material and Methods: This study included prospectively collected plasma samples from healthy controls (n=31) and high-grade serous ovarian cancer patients (n=21). Covalent coupling of chemically synthesized glycopolymers to fluorescence beads and separate detection of IgM and IgG antibody binding were performed as described previously. Statistical analysis included log- transformations, one-way ANOVA tests and multivariable logistic regression.

Results: We assayed 17 sialylated (Sia) and sulfated (Su) glycans, including the well-known tumor-associated antigens (SiaTn, Sia-Lewis antigens) and novel, not yet investigated cancer glycan determinants (glycolylneuraminic acid (GcSia)- and Su-containing glycans). We found a significant decrease in the levels of anti-glycan IgM directed to three glycans (3-GcSiaLec, 6-O-Su-TF, and SiaTn) in high-grade serous ovarian cancer patients compared to controls. The strongest discrimination was found for anti-SiaTn IgM (p=0.0007), which has also been described in the literature to have a prognostic value in ovarian cancer. The significant decrease in cancer patients was also found for anti-GcSiaTn IgG (p=0.043). Interestingly, 3-SiaTn, the analogue of SiaTn, did not show any discrimination between cancer and control.

Conclusion: Three novel glycan candidates were identified that discriminate between high-grade serous ovarian cancer patients and healthy controls and may therefore be used for the fabrication of discriminative glycan panels for ovarian cancer patient plasma profiling. A particular attention is on for Gc-bearing glycans as a group of novel but still poorly investigated cancer-associated glycan antigens that could have diagnostic and therapeutic significance.

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ROR2 IS A NOVEL TARGET OF THE WNT SIGNALING PATHWAY INVOLVED IN METASTASIS AND CHEMOTHERAPY RESISTANCE

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Introduction: Ovarian cancer remains the gynecological cancer with the poorest prognosis. In recent years the role of the Wnt signaling pathway with its implication in carcinogenesis and drug resistance has been demonstrated by us and others. The aim of this study was to investigate the role of the novel Wnt receptor tyrosine kinase (RTK) Ror2 in ovarian cancer.

Materials & Methods: We performed immunohistochemistry (IHC) for Ror2 in a large ovarian cancer and control cohort of Swiss (n= 426) and Australian (=263) patients. We investigated the expression pattern (intensity and percentage) by two independent examiners, including one pathologist. Correlation between protein expression and outcome data was performed using Kaplan-Meier and Cox Regression Analyses. Functional studies in ovarian cancer cell lines were performed to investigate the role of Ror1 and Ror2 in epithelial to mesenchymal transition (EMT), chemoresistance and carcinogenesis.

Results: Ror2 cytoplasmic expression is increased in ovarian cancer patients as well as in borderline tumors compared to benign controls. Neither the cytoplasmic percentage of Ror2 expression nor its intensity showed a difference in the progression-free survival or overall survival. Our vitro studies demonstrated that the knockdown of either Ror1 or Ror2 inhibits cell migration. Ror1 and Ror2 protein expression increased in cisplatin resistant cell lines and was associated with EMT.

Conclusion: The novel wnt-signaling pathway RTK Ror2, is upregulated in ovarian cancer and is associated with metastasis and chemoresistance. Ror2 may therefore represent an important target for innovative future targeted therapy of ovarian cancer.

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THE PROGNOSTIC VALUE OF THE ABO BLOOD GROUP SYSTEM IN PATIENTS WITH GYNECOLOGICAL CANCERS

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Introduction: A relationship between ABO blood groups and several types of malignancies has been reported. There is also increasing evidence that anti-glycan antibodies, localized on the surface of blood cells, play an important role in carcinogenesis. We aim at investigating whether ABO blood groups and their anti-glycan anti-A and anti-B antibodies have prognostic values in various gynecological cancers.

Material and Methods: We retrospectively evaluated data from two gynecological cancer cohorts (Swiss and Australian) treated between 1974 and 2013. Demographic data, clinico-pathological findings, treatment regimen, response to treatment as well as outcome data were reviewed. Relationships between clinico-pathological findings and blood groups were evaluated. Time to event analysis was performed using Kaplan-Meier and Cox-Regression Analysis.

Results: This study includes 888 patients with various gynecological cancers. Our results in ovarian cancer show an influence of the ABO blood group on the time to relapse. We examined 115 patients with ovarian cancer. Mean age at diagnosis was 59.4 years (SD=12.7). Hereby, 34% were blood group O, 45.5% A, 17.4% B and 3.5% AB. Mean follow-up was 3.07 years (SD=3.53). The median time until relapse for ovarian cancer patients in stage III (n=70) was 14.5 months (CI: 11.8-NA) for BG O (n=20) and 32.2 months (CI: 18.9-105) for BG A (n=34), which was significantly different (p=0.04; Hazard Ratio (HR) 0 vs A = 2.36 (CI: 0.99-5.6)).

Conclusions: We observe that relapse-free survival times were significantly longer in ovarian cancer patients with the blood group A when compared to those with blood group O, independent of other prognostic factors. Blood group A showed also a prognostic value for all histological types and stages of ovarian cancer.

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WAIVING OF INTRAOPERATIVE FROZEN SECTION ANALYSIS OF SENTINEL NODES IN BREAST CANCER PATIENTS – REOPERATION RATES AND COST-EFFECTIVENESS AT LUKS

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Introduction: Intraoperative frozen-section (FS) analysis of sentinel lymph nodes allows immediate axillary lymph node dissection (ALND) in breast cancer patients. In literature the sensitivity of preoperative clinical and ultrasound assessment adds up to 77%. Furthermore in patients without additional risk factors in tumour biology a reoperation can be avoided according to the results of the ACOSOG Z0011 trial. For this reason at the LUKS routine frozen section assessments of sentinel lymph nodes in preoperatively node negative patients were stopped in October 2014.

Material and Methods: In a first interim analysis we evaluated all patients who underwent sentinel node biopsy without frozen section diagnosis from October 2014 to March 2015. Analysis of reoperation rates due to incorrect preoperative assessment of the nodal status and the association with certain risk factors (tumour size, grading, lymphangiosis or multicentricity) was performed. We furthermore investigated the influence on operating time and costs. We excluded patients, who had external tumour biopsies and did not undergo additional preoperative interventional biopsy of suspicious lymph nodes in our clinic. We compared our study group with a control group with routine frozen section analysis.

Results: Between October 2014 and March 2015 we performed sentinel node biopsies in 47 preoperatively node negative patients. None of these patients had a frozen section assessment. In 76.6% (n= 36) of the patientins, the nodal status was histologically confirmed (no tumour cells or micrometastases). 11 patients were node positive (23.4%). 11 patients underwent reoperation (21.7%). 81.8% of those patients had at least one additional risk factor according tumour size or biology.

Conclusion: In this small group of patients we could confirm the sensitivity of preoperative clinical and sonographical assessment of the nodal status declared in literature. Nevertheless the rate of node positive patients was unexpectedly high. However all of these patients had additional risk factors. High grade carcinomas or tumour size > 5cm seem to be associated with a higher incidence of positive lymph nodes even without clinical or sonographical evidence.

Further evaluation of bigger patient groups will be necessary to confirm this thesis. However certain high risk groups should possibly not be deprived from intraoperative frozen section analyses in the future.

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ULTRASOUND-GUIDED BREAST-CONSERVING SURGERY TO REDUCE POSITIVE RESECTION MARGINS IN PATIENTS WITH INVASIVE BREAST CANCER

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Introduction: In the last few years the number of patients with breast cancer operated by breast conserving surgery (BCS) has been constantly increasing. The most important prognostic factor after BCS is the margin status. Much effort was made to develop intraoperative techniques, which help reduce positive resection margins and avoid thereby re-operations. The aim of our study was to define if ultrasound-guided breast-conserving surgery contributes to decrease re-operation rates because of positive margins.

Material and Methods: Retrospective analysis of data from 269 patients with primary diagnosed breast cancer operated at the university hospital of Berne between January 2012 and December 2014. Patients with intraductal carcinoma or neoadjuvant chemotherapy were excluded. Statistical analysis was performed with GraphPad Prism 5. Statistical significance was considered at $P < 0.05$.

Results: reast-conserving surgery was performed in 199 (74%) patients. Applying the exclusion criteria 159 patients were finally included in analysis. There was an overall re-operation rate of 15,7% because of positive resection margins. Between 2012 and 2014 there was a significant increase in the use of intraoperative ultrasound. In 2012 only 6 (11%) patients were operated by ultrasound-guided breast-conserving surgery compared to 36 (75%) in 2014 ($p < 0.0001$). At the same time we saw a decrease in R1-resection rates: 2012 n=10 (18.2%), 2013 n=9 (16.1%) and 2014 n=6 (12.5%).

In the group of patients who were operated by ultrasound-guided excision, close or positive resection margins were only found in 5 cases compared to 20 in the collective of patients who were operated without intraoperative ultrasound (p 0.04, OR 3.1).

Conclusion: We found that the intraoperative use of ultrasound to determine surgical margins reduced statistically significantly the risk of positive resection margins. Ultrasound is a cost-effective and reproducible method to improve oncologic safety in breast-conserving surgery.

We are now preparing a randomized prospective study to confirm these facts and to determine the size of ultrasound-measured margins, which is needed to obtain clear pathological margins.

P IV/ 45

PROSPECTIVE EVALUATION OF ROBOTIC-ASSISTED ENDOSCOPIC SINGLE-SITE HYSTERECTOMY

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Introduction: Until now robotic-assisted surgery provides no proven benefit in Gynecology. Single-site endoscopic hysterctomy has been introduced in several centres worldwide and provides almost scarless surgery, but its coordination is difficult, requires experience and adequate patient selection. However, robotic-assisted single-site endoscopic surgery has been evaluated in small case series, and it perhaps has the advantage of better coordination compared to conventional single-site endoscopy. The method seems to be feasible, but it lacks of convincing reasons for establishment.

Material and Methods: We prospectively evaluate the feasibility, cost effectiveness, learning curve, patients' satisfaction and pitfalls of robotic-assisted single-site endoscopic hysterectomy at our institution. A video is available to demonstrate the method.

Results: Preliminary results of ten cases show a reduction of surgery time and docking time to half of the baseline. Cost effectiveness was not given, even after improvement of surgery time. No severe complication occurred, no conversion was required. Potential pitfalls are the selection of patients with too large uteri and/or blood vessels, the suturing of the vaginal cuff and umbilical hernias. After introduction of this method patients' satisfaction was given, but the somehow not obvious advantage does not attract more patients who ask for this method.

Conclusion: Robotic-assisted single-site endoscopic hysterectomy is feasible, shows a remarkable learning curve, is not cost effective and until now does not attract additional patients who ask for it. A prolonged prospective evaluation and more knowledge of the method will probably change the attraction, but it is unlikely that even by improvement of the setting it will become cost effective.

P V/ 50

FETAL WEIGHT ASSESSMENT AT THE LIMIT OF VIABILITY MAY ADVERSELY AFFECT THE PREDICTION OF NEONATAL MORTALITY

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Introduction: Preterm birth at the limit of viability between 23 0/7 to 26 0/7 weeks of gestation is associated with a high neonatal morbidity and mortality. Neonatal outcome may be predicted using gestational age, fetal sex, estimated birth weight, use of antenatal corticosteroids, and the number of fetuses as factors. However, at the limit of viability fetal weight assessment by ultrasound is subject to inaccuracy. Thus, our aim was to determine if accuracy of fetal weight estimation (FWE) affects prediction of neonatal mortality in a delivery room setting.

Material and Methods: In this retrospective, single-center study we included all cases with preterm birth between 23 0/7 and 26 0/7 weeks of gestation meeting our inclusion criteria. Patients were divided into three groups according to birth weight (accurately estimated, underestimated, overestimated). Neonatal outcome for each group was categorized into survival without profound impairment, survival with profound impairment and death, for a follow-up period of six weeks. The risk for overall death and chances of survival if intensive care is administered was then calculated for each infant individually in each group.

Results: A total of 87 cases were included, 62.1% of those were estimated accurately. Gestational age at birth, fetal sex, maternal BMI and time interval between birth and ultrasound affected accuracy of FWE. Neonatal outcome in cases receiving intensive care shows that mortality at six weeks follow-up is significantly higher in the overestimated group.

Conclusion: Survival of overestimated infants is significantly lower than of those estimated accurately. When estimating neonatal outcome, potential inaccuracy of FWE should be taken into account, as it may lead to miscalculations regarding chance of survival.

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MONOCHORIONIC TWINS WITH SELECTIVE GROWTH RESTRICTION: IS THE "GRATACOS CLASSIFICATION" JUSTIFIED?

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Introduction: In 2007, Gratacos et al. have published a classification of monochorionic twins (MC) with selective growth restriction (sIUGR) based on characteristic Doppler findings in the umbilical artery of the smaller twin. Type I always had a positive end-diastolic flow (EDF), type II a persistent absent or reversed EDF, and type III intermittent absent or reversed (iAREDF) EDF. This classification relied on the assumption that these Doppler findings do not change during gestation and can be observed from early in pregnancy. In particuliar, a different clinical outcome was found in relation to the different types. The aim of the following study was to look longitudinally if there is a change in types over time.

Methods: All MC twins with sIUGR over a 10 years period were included from 2 tertiary centers. sIUGR is defined as an estimated fetal weight <10th percentile and a weight difference of ≥25%. The pregnancies were monitored by serial Doppler examinations, Manning score and computerized cardiotocography was added from 26-28 weeks onwards. Timing of delivery was based on deterioration of Doppler findings, mainly of DV, and/or CTG/Manning-findings.

Results: A total of 74 cases were included. Mean gestational age at diagnosis was 25.0 weeks (range 15.7-34.6) weeks and 32.2 weeks (range 26.4-38.3) at delivery. sIUGR type I was present in 46/74 (62%), II in 15/74 (20%), and III in 13/74 (18%). Classification did not change in 39/74 (52.7%) of the cases. In 35/74 (47.3%) cases, the initial Gratacos classification changed, to a higher type in 23 cases (type I-II in 10 cases, II-III in 5 cases and I-III in 8 case) and in 10 cases to a lower type (III-I in 2 cases, III-II in 2 cases and II-I in 6 cases). One case changed from type III to type, 1 case has changed from II to I and then has returned to type II before birth.

Conclusions: In our series, we had a lower incidence of Type III sIUGR compared to the study by Gratacos et al. Moreover, 47.3% changed their classification during the observational period, mainly to a higher type. We suggest a longer observation time at every examination to exclude short periods of iAREDF to better distinguish between type II and III cases.

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EXPERIENCE WITH FIRST TRIMESTER PREECLAMPSIA SCREENING IN BERN

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Introduction: Preeclampsia (PE) is still a leading cause of maternal mortality worldwide and in particular in industrialized countries. We were not able to lower morbidity and mortality despite the fact that since more than 100 years we are screening by measuring blood pressure and proteinuria. Moreover, prevention with aspirin has been shown to be helpful in pregnancies at risk. However, only half of the women developing PE have anamnestic and/or clinical risk factors. To improve this detection rate a screening test for PE similar to that for trisomy can be performed between 11+0 and 13+6 weeks. The screening is based on maternal history, mean arterial pressure (MAP), uterine artery Doppler (UtA-PI), and the biochemical and angiogenetic parameters PAPP-A and PLGF, respectively. The FMF London has recently validated the performance of this test. We introduced this screening at our clinic and test the performance in our population.

Material and Method: PE screening is offered to all women who are followed up at our clinic at the time of first trimester screening. The UtA-PI is measured according to the guidelines of the FMF London and by certified sonographers. Blood pressure is measured with UEBE Visomat comfort in a standardised way. PAPP-A is drawn at the first prenatal visit between 9 and 11 weeks or at the time of scanning and measured on Kryptor from Brahms. PlGF is drawn at 11+0 to 13+6 weeks and also analysed on Kryptor. We use ViewPoint for risk assessment. Pregnancy outcomes are continuously assessed.

Result: 623 women so far accepted screening for PE. 511 women had a complete screening. Our population is comparable to the one studied by the FMF London in regard of background risk factors. We had 38 (7.4%) women with a risk of PE before 34 week's gestation ≥ 1:200, a result in the expected range. 24 (63%) had no ascertainable risk factors. The outcomes are available in 255 women, 196 with a complete screening. 4 patients developed PE, 2 preterm, both screen positive in our screening. 7.6% (15/196) were screen positive, the false positive rate is 7.1% (14/196).

Conclusion: Our results show that screening for PE is feasible in a Swiss hospital setting with certified sonographers and laboratory setting. Prevention of early PE with aspirin in women screening positive has to still be formally proven. Moreover, the high negative predictive value of such a screening test my also help to reduce anxiety and maybe also unnecessary controls.

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SONOGRAPHIC ASSESSMENT OF CERVICAL LENGTH AFTER LAPAROSCOPIC AND VAGINAL CERCLAGE: IS THERE A DIFFERENCE?

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Introduction: Cervical insufficiency (CI) or incompetence is a well-known condition, and is notoriously associated with a high risk of second trimester abortion and/or preterm delivery. The traditional surgical treatment of CI is the vaginal placement of a cervical cerclage (VC). However, in a small number of cases the vaginal approach is not possible and thus a laparoscopic abdominal cerclage (LAC) is necessary. The aim of our study was to assess the position of the cerclage tape in relation to the technique used and the behaviour of the CL during pregnancy.

Methods: Between January 2008 and March 2015 a retrospective study was conducted, including all women who had a prophylactic LAC (group 1) or VC (group 2) placement due to a poor obstetric history. CL before and after cerclage placement was measured by transvaginal sonography (TVS). After surgery the CL was assessed by measuring from the tape to the external cervical ostium while longitudinally, the entire CL was assessed. Data analysis was performed using Prism 5 for Mac OS X.

Results: A total of 39 cases were included. Mean gestational age at cerclage in the two groups was 17+/-3 weeks. Of these patients, 17 had a LAC (group 1) and 22 patients a VC (group 2). The CL before surgery did not show significant differences between the two groups (group 1: 261+/-11mm; group 2: 25+/-13mm; p=NS). After cerclage placement the measured distance between the tape and the external ostium was significantly longer in the LAC group (group 1: 28+/-8mm vs group 2 : 16+/-8mm; p<0.0003). During the follow up the CL in group 2 showed a significant decrease over time (p<0.01), while the CL in group 1 did not change. A higher rate of preterm delivery was noted in group 1 (31%) while in group 2 only 5.9% delivered preterm (p=NS).

Conclusions: Due to the different technique, the tape is at a different localization within the cervix. An interesting aspect is, that the higher localization of the LAC is not associated with a shortening of the internal part of the cervix (above the tape) with a progressive reduction of the CL. This behaviour may be due to the inherent "mechanical weakness" postulated as reason for insufficiency.

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DEVELOPMENT OF MALE ANIMAL MODEL FOR THE STUDY OF PATHOGENICITY OF WADDLIA CHONDROPHILA, AN EMERGING AGENT OF MISCARRIAGE

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Introduction: Waddlia chondrophila, an intracellular emerging pathogen of the Chlamydiales order, has been associated with fetal death and miscarriage in humans and mammals. Previous studies have been conducted on women and female animal model, but little is known regarding its pathogenic potential in males. We developed an animal model to investigate how Waddlia might be transmitted in humans. In parallel, presence of Waddlia was investigated in men.

Material and Methods: Waddlia were cultivated in amoeba for a week before the infection. Ten weeks old mice were anesthetized and infected using urethral injection into the bladder and sacrificed at days 14 and 21 post-infection. Organs (liver, spleen, kidney, testis, bladder, seminar vesicle, lymph node and triceps surae) were collected and investigated by PCR and histology to detect the presence of Waddlia and determine regions of pathogenicity. Blood was collected for antibody analysis by micro-immuno fluorescence (MIF). Similar methods were used to investigate the presence of Waddlia in human blood and sperm.

Results: Dissection of the infected mice revealed clinical signs of systemic infection such as hepatomegaly, splenomegaly and adenopathy. MIF showed high titers of Waddlia-specific IgG antibodies at day 14 and 21 post infection. Most represented IgG isotypes IgG2a and IgG3, indicate a Th1 humoral response consistent with the obligate nature of the pathogen. Quantative PCR specific for Waddlia detected high numbers of copies of bacterial DNA in liver, spleen, iliac lymph node and seminar vesicles, confirming the systemic spread of the bacteria. No evidence of bacteria was found in the bladder 21 days after infection. IgG titers and bacterial load were higher 14 days compared to 21 days after infection, indicating that mice had developed a robust immune response against Waddlia. Strong evidences of infection in human males were also confirmed.

Conclusion: Infection of the urogenital track by Waddlia is able to induce a systemic infection that persists after clearance of the bacteria in the bladder. Infected organs are mainly liver, spleen, iliac lymph node and seminar vesicles, the last of which possibly suggests sexual transmission. Presence of Waddlia is confirmed in human males. Further investigations are needed to determine how these infected areas contribute to the transmission of the pathogen.

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PLACENTAL MESENCHYMAL DYSPLASIA: A UNIQUE PLACENTAL PATHOLOGY WITH DIFFERENT CLINICAL MANIFESTATION? REVIEW OF THE CASES OF 6 TERTIARY HOSPITAL IN EUROPE AND CANADA

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Introduction: Placental mesenchymal dysplasia (PMD) is a rare vascular placental anomaly estimated to occur in 0.02% of pregnancies. Definite diagnosis relies on histologic examination, characterized by placentomegaly and surface grapelike vesicles, which mimics molar pregnancy on ultrasound and gross placental examination. PMD can be associated with intrauterine fetal death, intrauterine growth restriction, Beckwith Wiedemann syndrome, fetal tumors (mostly hamartoma) and maternal complications (preeclampsia). We screened for the cases of PMD in 6 different tertiary hospitals around the world.

Method: Pathology, ultrasound and obstetric databases from 6 tertiary hospitals were screened for cases of PMD between 2006-2014. Pregnancy history, outcomes and ultrasound images were then retrieved for each case.

Results: We found 12 new cases of PMD, with various maternal, fetal and neonatal outcomes: 2 fetuses were normal and had uneventful neonatal outcomes, 6 fetuses showed IUGR, 1 had Beckwith-Wiedemann syndrome, 1 presented with CHARGE syndrome, 1 with pleuro-pulmonary blastoma and 5 fetus had neonatal thrombopenia. Interestingly, 2 tertiary hospitals found no cases in their databases. PMD was suspected between 16-33 weeks gestation (WG) and 44% of our cases were diagnosed between 13-20 weeks. Ultrasound examination showed enlarged placenta, multicystic with avascular and hypoechogenic cystic changes. 3D inversion mode was used in 1 case at 16 WG. Elevated B-HCG and AFP were present at first trimester screening in 2/12 and 3/12 cases respectively. Three cases presented features that have never been described previously with PMD: 1 case was associated with triploid mosaicism confined to the placenta: mos69,XXY/46XY, which underlies the importance of placental karyotype. One case showed pleura-pulmonary blastoma and 1 case was a CHARGE syndrome.

Conclusion: PMD is still not well recognised: 2 tertiary hospitals included in our study did not identify any cases of PMD. PMD is a rare and clinically significant lesion, frequently associated with adverse outcomes. Karyotype should be obtained to exclude partial molar pregnancy. Due to the high rate of obstetrical complications, these patients should undergo a close follow up.

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TARGETED MARGINS ASSESSMENT TECHNIQUE REDUCES THE NUMBER OF POSITIVE SURGICAL MARGINS IN BREAST-CONSERVING SURGERY

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Introduction: Breast-conserving surgery (BCS) with adjuvant radiotherapy has become the standard treatment for early-stage breast cancer. Randomised studies have shown identical survival compared to patients that underwent mastectomy. Positive surgical margins are the most significant single risk factor for local recurrence after BCS. Various techniques for intraoperative margin assessment can be used to try to reduce positive margins, including frozen section analysis, shaving of the cavity, intraoperative imaging of the specimen and innovative techniques such as MarginProbe®. Nevertheless, none of these techniques have shown to be effective. In our center, we introduced a targeted margin assessment (TMAS) in the search to reduce the rate of positive surgical margins. TMAS consists of intraoperative imaging (US and X-ray), frozen margins sections and shaving of the cavity (in selective cases) and the presence of a pathologist and a breast trained radiologist during the operative sessions. The aim of this study was to assess the benefit of this strategy.

Material and methods: From Jan 2008 to Dec 2014, 1360 patients with primary, in situ or advanced, breast cancer have been treated at the Centro di Senologia della Svizzera Italiana (CSSI). Retrospectively, patients were divided in two groups: group A (661 patients operated between 01.01.2008-30.06.2010) and group B (699, operated between 01.07.2010-31.12.2014). Data were analyzed to verify if the rate of re-excision due to positive margins at first surgery had decreased over these 2 periods of time.

Results: Of group A, 595 underwent BCS and 119 (20%) had positive margins. The histological subtypes were as following: 55 (46%) patients had a mixed DCIS/DCI, 31 (26%) ductal carcinoma, 13 (10%) DCIS, 17 (14%) lobular carcinoma, 1 (0.8%) mixed lobular/ductal carcinoma, 1 (0.8%) metaplastic carcinoma and 1 (0.8%) tubular carcinoma. 6 (5%) were triple negative. Of group B (699 patients), 626 underwent BCS. 54 (8.6%) had positive margins. Histological subtypes were as following: 20 (37%) patients had mixed DCIS/DCI, 10 (18.5%) ductal carcinoma, 10 (18.5%) DCIS, 9 (16.7%) lobular carcinoma, 1 (1.8%) mucinous carcinoma. 2 cases (3.7%) were triple negative.

Conclusions: The number of positive surgical margins in patients undergoing BCS has significantly decreased at our Center in the last 3.5 years. We attribute this improvement to the introduction of a targeted margin assess strategy.

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ARE PAP SMEARS AT ALL HELPFUL IN TRANSGENDER PEOPLE?

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Introduction: Transgender identify as a member of the sex opposite to that assigned at birth, and desire to live and be accepted as such. Transgender may undergo gender transition, the process of aligning one's gender expression or presentation with their internal gender identity. The process of transition may involve medical gender reassignment therapy and often includes hormone replacement therapy and/or sex reassignment surgery (SRS). In 2009 we started performing PAP smears in our transgender patients presenting at our specialized unit. In the recent literature there had been reports describing cancerous transformation that had occurred in neovaginas. The role of the PAP smear and HPV testing in transgender healthcare is controversial, and there is a paucity of data analyzing this issue. Aim of the current study was to analyze the results of PAP smears and HPV testing in transgender persons.

Patients and Methods: This study has got Ethical Approval (KEK Bern). All transgender patients who are seen in our specialized outpatient clinic have been offered , clinical examination, colposcopy and PAP smear as part of their routine check-up since 2009. Depending on these results biopsies were offered and according to the latter results treatments offered. Statistical analyses were performed using GraphPad Prism version 6.0.

Results: The data of our patients (n=97) from our transgender unit was analyzed. The mean age was 50 years (range 18 – 79 years), 30 patients hadfemale to man (ftm) transformation and 67 man to female transformation. Of the 30 ftm patients 25 had SRS, of the MTF patients 61 had SRS. The data for PAP smear and HPV testing was reviewed. 15 Patients had regular PAP smears and HPV testing done over the last five years. Pathological findings were found in four Patients. One patient (mtf) was HPV 18/54 positive without evidence of dysplasia, One patient (ftm) showed mild dysplasia and is now being followed up, one patient (ftm) showed an ASCUS that resolved spontaneously in the follow-up. One patient presented with VIN II that was successfully treated with Aldara.

Conclusion: Transgender should be encouraged to present regularly to a gynecologic unit for a checkup that should be carefully designed to fit the individual need and include a clinical examination of the sexual organs and a PAP smear and HPV testing. Further examinations should be performed according to the stage of transition and existing co-morbidities.

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QUALITY OF LIFE, PELVIC FLOOR SYMPTOMS AND REGRET AFTER COLPOCLEISIS FOR PELVIC ORGAN PROLAPSE: A RETROSPECTIVE ANALYSIS

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Introduction: Colpocleisis is a minimally invasive procedure involving closure of the vagina, used to treat genital organ prolapse. These days, it is commonly replaced by laparoscopic approaches. This study was undertaken to assess the quality of life (QoL), pelvic floor symptoms and regret after colpocleisis.

Material and Methods: We retrospectively evaluated patients who received partial and total colpocleisis between September 2001 and February 2014. Subjective outcome data were obtained by a standardized telephone interview. We used a questionnaire with 8 questions divided into 3 groups: 1) quality of life and body image, 2) bladder and bowel symptoms and 3) signs of regret.

Results: In the examined 12.5 years, 44 women between the age of 65 and 91 (mean 78 years) received a multicompartment or partial colpocleisis for complete prolapse or recurrence of prolapse after former prolapse surgery. The interview could be performed in 20/44 (45.5%) patients. Of these 20 patients, 75% reported a positive impact on QoL, 10% a negative, 10% could not report any change in the QoL and 5% could not answer this question. Two patients thought their body image has changed (10%), 65% described persistent urinary problems, 10% reported bowel problems. The 10% of patients who reported a negative impact on the QoL also regretted having had surgery altogether, but neither reported recurrence of the prolapse. Of note, the vast majority of patients (90%) would undergo the same surgery again and no patient regretted the loss of her vaginal sexual function. During the 12.5 years, 5/44 (11.4%) major complications are recorded, namely four bladder injuries and one bowel perforation, which could be resolved during surgery. Mean estimated blood loss was 360 ml with an average operating time of 150 min.

Conclusion: In elderly or medically compromised patients with advanced pelvic organ prolapse, colpocleisis is a minimally invasive, safe and effective surgical technique with a high subjective satisfaction rate. Surprising seems to be the high rate of persistent urinary problems despite a high overall satisfaction rate.

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PELVIC FLOOR MUSCLE ELECTROMYOGRAPHY DURING COUGHING – AN EXPLORATORY AND RELIABILITY STUDY

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Introduction: Activities provoking stress urinary incontinence (SUI) rapidly raise the intra-abdominal pressure and impact loading on the pelvic floor muscles (PFM). Therefore coughing can cause urinary leakage and consequently is often used as a SUI test, e.g. during pad tests and the cough stress test, to check for bladder neck mobility or measure PFM training effect. To date PFM characteristics during coughing including their reliability test have not been investigated. The present study's aim was the description and reliability test of six PFM electromyography (EMG) variables during coughing.

Material and Methods: This trial was designed as an exploratory and intra-session retest reliability study including 11 healthy nulliparous female participants to characterize PFM pre-activity and reflex activity during coughing derived from EMG. PFM EMG was measured twice for 30s at rest and twice for 5s during maximum voluntary contraction (MVC). Six variables, which were in accordance to former study protocols representing the mean PFM EMG activity during the time-intervals of pre-activity and reflex latency responses, were averaged over three coughs per subject. The variables were presented descriptively (normalized to MVC in %EMG) and tested regarding their reliability (systematic error, ICC, SEM, MD).

Results: PFM EMG at rest showed a mean of 24.9 (±3.7) %EMG. PFM EMG variables during coughing showed a significantly higher ($p<0.05$) mean of 35.1-52.2%EMG. Only four variables did not show systematic error (Friedman $P>0.05$), ICC(3,k) was higher than ICC(3,1) ranging 0.67-0.91, with SEM 6.1-13.3 %EMG and MD 24.9-40.3 %EMG.

Conclusions: PFM activity immediately before and after the impact of coughing was higher than PFM activity at rest, suggesting PFM pre-activity and reflex activity during coughing. Despite standardization of coughing, PFM EMG variables showed poor reliability (good to excellent ICC(3,k) values, however high SEM and MD). Therefore carrying out coughing in clinical test situations is expected to be more heterogeneous showing even lower reliability. Urinary leakage provoked by coughing tests should be interpreted carefully in terms of drawing conclusions on PFM activity; and standardization and reliability test of coughing in SUI test situations should be a part of future practitioners and scientific work. A limitation of this study is potential crosstalk from other muscles involved in coughing. Consequently, crosstalk during coughing should be subject to further investigations of PFM EMG.

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PELVIC FLOOR SONOGRAPHY AFTER MESH INSERTION – EVIDENCE FOR MESH SHRINKAGE OR MESH FOLDING?

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Introduction: Prolapse recurrence after transvaginal mesh procedures is often viewed as a result of mesh shrinkage or missing/ incomplete mesh fixation. In the literature, rates of up to 60% of mesh shrinkage have been reported and this topic is controversially discussed. Mesh shrinkage is often determined based on the comparison of original mesh dimensions with the in vivo mesh sizes six weeks post-operatively. The goal of our prospective study is systematic, repeated sonographical evaluation of the dimensions of polypropylene meshes (GYNECARE PROLIFT+M(TM)) over a period of at least one year compared with initial mesh lengths.

Material and Methods: 60 patients with an anterior PROLIFT procedure were included in the analysis. Inserted meshes were surgically shortened intra-operatively by approximately 20 mm of the manufacturer's original mesh length of 110 mm. Standardized pelvic floor sonography was used to determine subsequent mesh dimensions 4-7 days post-operatively, as well as three, six and more than twelve months after the surgery.

Results: The length of the inserted meshes was shortened intra-operatively to an average (Min-Max, SD) of 90.5 mm (85.0-96.1, SD 3.2). Pelvic floor sonography 4-7 days post-operatively revealed an average mesh length of 60.2 mm (37.8-83.7, SD 7.9), which represents a highly significant 33% reduction in mesh length (30.2 mm reduction) during the first few days. At the 3 month post-operative visit, an average mesh length of 54.0 mm (23-73.4, SD 9.6) was measured and resulted in a further reduction of 10% (6.2 mm reduction). With average mesh length of 51.0 mm (22.1-72.6, SD 9.2), an additional reduction of 5% (3 mm reduction) was observed at the 6 month follow-up visit. A year later, a 2% shrinkage (1.2 mm) was present, with an average mesh length of 49.8 mm (23.1-70.9, SD 8.8).

Conclusions: The majority of mesh shrinkage was observed 4-7 days post-operatively, followed by subsequent smaller shrinkage rates at 3, 6 and 12 months follow-up. Thus, it is likely that the intra-operative insertion technique (folding/ insufficient fixation) is responsible for the main differences in mesh lengths. The optimization of the implantation technique should be the main focus of surgeons in the future. Additional mesh types should be tested for their behavior in vivo. Pelvic floor sonography allows post-operative evaluation of mesh positions and monitoring of the mesh lengths over time.

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BIOFILM FORMATION BY VAGINAL LACTOBACILLUS IN VIVO, CLINICAL CONSIDERATIONS

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Introduction: Biofilms are matrix-enclosed population of bacteria that adhere to each other, to surfaces or interfaces. Biofilm formation contributes to vaginal mucosa colonization and long-term permanence of lactobacilli in a stable ecosystem. Additionally lactobacilli put forth a defensive role by interfering with pathogenic bacterial growth and/or adhesion. In vitro biofilm formation by lactobacilli has been previously demonstrated in three different vaginal L. jensenii. The purpose of this report was to document in vivo formation of biofilm by vaginal lactobacilli.

Methods: Fresh wet mount microscopic vaginal sample images in data base of women diagnosed with symptomatic recurrent vaginitis after antibiotic treatment were completed and their corresponding test of cure became negative.

Results: Ten patients were identified and their vaginal cultures included Ureaplasma urealyticum, Mycoplasma hominis, Gardnerella vaginalis and Group B Streptococci. Biofilm formation is documented in 20 microphotographs.

Conclusion: Documentation of biofilm formation by vaginal L jensenii in fresh wet mount preparations is noteworthy. Significant clinical implications include the prospect to isolate, produce and employ therapeutically biofilm producing lactobacilli in the prevention of recurrent vaginal infections and preterm labor associated with vaginal microbial pathogens.

Videopräsentation / Vidéoprésentation

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MANAGEMENT OF COMPLICATIONS OF LAPAROSCOPIC GYNECOLOGICAL OPERATIONS – A VIDEO PRESENTATION

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Lesions of the bladder, the rectum and bleedings from major vessels are severe intraoperative complications which can occure during laparoscopic operations in Gynecology.

As Laparoscopic Surgery gains more and more interest worldwide, Gynecologic Surgeons should be able to manage these complications by themselves.
This video shows three major complications of pelvic surgery and how they can be managed laparoscopically: Intraoperative bladder lesion, intraoperative rectal lesion, intraoperative bleeding by injury of iliacal vessels during lymphonodectomy.

All of these complications could be treated successfully by laparoscopy with full recovery of thepatients.

The video focusses on the reconstructional technique and could help younger collegues to improve their knowledge about complication management.

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SAFE VAGINAL UTERINE MORCELLATION FOLLOWING TOTAL LAPAROSCOPIC HYSTERECTOMY

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Minimally invasive approach for hysterectomy with proven benefits and lower morbidity has become the goldstandard even in women with large uterine masses. Most women with a malignant condition present with abnormal vaginal bleeding and/or suspicious imaging with few diagnosed in final histopathology after surgery. Intra-abdominal morcellation for uterus extraction has an increased risk for potential tumor spread in an undiagnosed malignancy and developing peritoneal metastases, especially in cases of unexpected leiomyosarcoma. We developed a simple method to wrap the uterus in a contained environment with a plastic bag through the posterior vaginal fornix prior to conventional coring morcellation for vaginal extraction in total laparoscopic hysterectomy. This work-up ensures a safe uterus extraction. The Limitation of a safe contained environment is due to the size of the plastic bag, if the transversal uterine diameter exceeds 15 centimeter (cm). Additionally we established a risk stratification and treatment algorithm to implement this procedure in daily routine. A video and an illustrating sketch demonstrate the simplicity and safety of the procedure.

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LAPAROSCOPIC ULTRASOUND GUIDED REPAIR OF UTERINE SCAR ISTHMOCELE DURING PREGNANCY

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Introduction: The incidence of caesarean delivery has increased markedly in the last decade causing a greater risk of complications in future pregnancies such as ectopic caesarean scar pregnancies, placenta accreta, and uterine rupture. A uterine scar dehiscence (USD) with a "diverticulum" also called "isthmocele" is rare. The clinical diagnosis of USD is quite challenging because it is usually not associated with bleeding, pain or foetal distress. There is still controversy about the obstetric importance when detected at an interval. Even less information is available when seen in early gestation. The management of such iatrogenic defects is intriguing.

Case: We present a 29 year-old woman where a USD characterised by an isthmocele connected to the extra-amniotic space at 8 weeks of gestation was diagnosed. Due to this particular anatomic situation, a laparoscopic ultrasound-guided repair (LUSR), a surgical technique which has never been performed before in early pregnancy, to the best of our knowledge was proposed. The LUSR started by opening the plica vesico-uterina with a bipolar hook. The bladder was bluntly separated from the anterior wall of the uterus until the dehiscence with the herniating isthmocele was identified. The defect was closed by a re-approximation of the edges. We paid close attention to ensure that the isthmocele was not injured. TVS was of value during this process as the stiches could be placed under sonographic visualisation. The pregnancy course was remarkably uneventful. A USD did not reappear.

Conclusion: We believe that the proposed LUSR is an innovative procedure, at least for cases with herniating isthmoceles in USD. Our case also highlights the fact that there is a paucity of studies discussing the surgical repair of USD during pregnancy.

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URODYNAMIC TESTING: AN EDUCATIONAL VIDEO FOR RESIDENTS TRAINING

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Introduction: Urodynamic (UD) testing is a comprehensive urogynecological procedure that is used to understand bladder functioning, diagnose lower urinary tract disease, and evaluate treatment outcomes. UD investigations are complex and invasive procedures that can be accompanied by a degree of mental and emotional stress for residents performing it for the first time. In order to improve the knowledge, to reduce distress and to gain a structured competence before doing UD testing in patients, we present this educational video.

Methods: We follow the standards of the International Continence Society (ICS) as "Good Urodynamic Practice" (GUP) and the International Consultation on Incontinence (1,2). Written informed consent was obtained from the patient.

Results: According to the GUP we were able to break down the complete UD into five UD specific (1-5) and five accompanying steps (a-e). In the accompanying steps, the patient's history is asked incl. implementation of quality of life questionnaires (a), and a gynecological examination is performed with assessment of the degree of genital descent and sampling of urethral swabs (b). Then 4 of the 5 UD steps follow: measurement of post-void residual volume (1), filling cystometry (2), urethral function tests (urethral pressure profile and abdominal leak point pressure) (3), and electromyography (4). Cystoscopy (c), perineal ultrasound (d), and pad tests (e) are done consecutively, before last step, the free uroflowmetry is performed (5).

Conclusions: The video provides a logic step-by step instruction for UD testing for beginners and documents standards for training. It does not prevent beginners doing their first UD under supervision of a trained urodynamicist. The video is a basic educational tool and further validation would be of interest whether the UD intervention based on the video improves knowledge and confidence in residents.

References: 1 Schafer W, et al. Good Urodynamic Practice Uroflowmetry, filling cystometry and pressure flow studies. Neurourol Urodyn 2002;21:261-74
2 Abrams P, et al. Recommendations on dynamic testing. Fourth international consultation on incontinence. Ltd 2009 edition

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SIMULTANEOUS LAPAROSCOPIC AND HYSTEROSCOPIC APPROACH, IN WOMEN WITH SYMPTOMATIC UTERINE SCAR SEPARATION AFTER CESAREAN SECTION

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Introduction: in the era of rising caesarean section rates uterine scar separation is becoming a more frequent clinical dilemma. As there is no reliable way to predict uterine rupture in women with prior caesarean delivery there is no reliable algorithm to select women which will benefit from uterine scar repair. In symptomatic women a variety of operative techniques are reported. In following videos we present a simultaneous laparoscopic and hysteroscopic approach.

Case report: in two women with symptomatic uterine scar separation we successfully performed a simultaneous laparoscopic and hysteroscopic \`rendez vous\` technique. The first woman was submitted to our hospital with increasing abdominal pain and a vaginal bleeding disorder six years after caesarean section. A large isthmozele (35 x 30 x 22 mm) was diagnosed. The other women underwent a diagnostic hysteroscopy on behalf of a bleeding disorder and infertility. We found a large dehiscence as suspected from prior sonography and benign endometrial histology. Both women we offered a laparoscopic and hysteroscopic approach. We subsequently demonstrated the benefit from real-time intrauterine and intra-abdominal visualisation. At the same time varying the illumination was proven beneficial for revealing the uterine lesion. No operative or postoperative complications occurred. In one woman we inserted a levonorgestrel-releasing intrauterine system for contraception. The other women got pregnant within two years.

Conclusion: simultaneous laparoscopic and hysteroscopic \`rendez vous\` technique can be proposed in women with symptomatic uterine scar separation.

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IN-BAG MORCELLATION DURING LAPAROSCOPIC HYSTERECTOMY

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Introduction: Laparoscopic power morcellation, when used for hysterectomy or myomectomy in women with uterine leiomyomas, poses a risk of spreading unexpected malignant tissue, notably uterine sarcomas, beyond the uterus. The FDA (U.S. Food and Drug Administration) is warning against the use of laparoscopic power morcellators in the majority of women undergoing hysterectomy or myomectomy for uterine leiomyomas. The risk of an uterine sarcoma in women operated for leiomyomas is approximately 1 in 350 women. However, abandoning laparoscopic morcellation would mean a step back in the evolution of Gynecological surgery, given certain advantages of laparoscopic surgery over abdominal surgery. Alternatives lowering the risk of dissemination during this surgical procedure are needed. A new technique using a laparoscopic in-bag intra-abdominal morcellation is presented in this video.

Materials & Methods: After the laparoscopic supracervical hysterectomy, the bag (EcoSac EMP 230 ECO, 3100 ml, Espiner Medical Ltd) is introduced intra-abdominally and the specimen is inserted into the bag. The bag is then closed and adjusted to the abdominal cavity and inflated with CO2. The power morcellator is inserted in the bag and the specimen is morcellated under visual control. After the morcellation the bag is controlled for any signs of perforation and remaining pieces of the specimen are evacuated. At the end, the bag is evacuated and the abdominal cavity controlled for any lesions or remaining parts of the specimen.

Results: The procedure was performed without any complications in an acceptable duration. No lesions of the bag or any other organs were observed. Visual control during the morcellation was excellent. All remaining parts of the specimen were evacuated after morcellation as they remained in the bag. Post-operative follow up was normal.

Conclusion: This new technique of laparoscopic in-bag intra-abdominal morcellation could be a reasonable option for patients and Gynecological surgeons preferring a laparoscopic approach to hysterectomy or myomectomy. Furthermore this procedure could lower the risk of spreading unsuspected cancerous tissue as the morcellation takes place in a closed environment and not directly in the abdominal cavity. The reproducibility and safety of this technique could represent a viable option for Gynecological surgeons but the real interest of this technique in Gynecological surgery and oncology has to be investigated in further studies.

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POST-CONCEPTIONAL ABDOMINAL CERCLAGE BY LAPAROSCOPY: A CASE REPORT

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Introduction: Cervical insufficiency occurs in 0.1-1% of all pregnancies and can induce late miscarriage and preterm birth with increased perinatal morbidity and mortality. Cervical cerclage by vaginal approach is the traditional treatment. Nonetheless, abdominal cerclage can then be required for several reasons, especially in case of history of failed vaginal cerclage. Even if controversy remains to establish which the best surgical approach is, increasing evidence suggests that laparoscopy is as safe and effective as laparotomy and associated with a short hospital stay, less postoperative pain and a rapid recovery. However, data are still very limited about technique and outcomes as for timing of surgery in relation to pregnancy.

Material and Methods: Case observation and report.

Results: We report a 34 year-old patient, gravida 3 para 1 with history of cervical insufficiency after two second trimester miscarriages at 17 and 24 weeks of gestation and failure of vaginal cerclage. The patient was admitted at 7 2/7 weeks of pregnancy and a post-conceptional abdominal cerclage was performed by laparoscopy. Gentle manipulation of the uterus was realized by a vaginal swab. After explorative laparoscopy, three operative trocars were inserted and vesicovaginal detachment was performed to access the uterine isthmus. Uterine vascular pedicles were dissected to create a window medial to the uterine arteries and beside the isthmus, where we inserted a 0.9 Mersilene tape bilaterally to encircle the isthmus. The knot was fixed anteriorly on the isthmus and reinforced by a non-absorbable suture. A viable pregnancy was confirmed by ultrasound assessment at the end of the procedure. The postoperative follow-up was uneventful.

Conclusions: To date, post-conceptional abdominal cerclage by laparoscopy has been described only in a 20-case study. Yet the efficacy of the procedure performed either before or during pregnancy seems similar as the live birth rate (95%) and the failure rate (5%) are comparable to those after pre-conceptional cerclage performed by laparoscopy or laparotomy. However, the complication rate for post-conceptional abdominal cerclage via laparotomy could be higher than that via laparoscopy, noteworthy in relation to excessive bleeding from the uterine vessels.

Poster
ohne Präsentation / sans présentation

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ANALYSIS OF SERUM PANCREATIC STONE PROTEIN IN HEALTHY PREGNANT WOMEN AND ITS VALUE IN PREDICTING INFLAMMATORY COMPLICATIONS DURING PREGNANCY

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Introduction: Pregnant women have an increased susceptibility to inflammatory diseases caused by the complex immunological changes during pregnancy. Unfortunately, biochemical biomarkers have their limitations in pregnant women with pregnancy associated pathologies, such as preterm premature rupture of membranes (PPROM), intra-amniotic infection, preeclampsia or HELLP syndrome.. Pancreatic stone protein (PSP) has been studied in several gastrointestinal pathologies and patients requiring intensive care unit (ICU) management. PSP has been reported to perform better than other biochemical biomarkers such as procalcitonin (PCT), interleukin 6 (IL-6), and C-reactive protein (CRP). Therefore, the aim of this study is to evaluate the physiological course of the potentially novel biomarker PSP in pregnant women as well as to assess its predictive role in the development of inflammatory complications during pregnancy

Material and Methods: The PSP study is a prospective, single centred cohort study assessing the role of PSP as a potentially novel biomarker in pregnant women. The aims are first to generate a physiological course of PSP in pregnant women and secondly evaluate its predictive role in inflammatory complications during pregnancy. For the physiological course of PSP around 300 pregnant women will be included.

Results: First results of PSP-levels in normal pregnancies show that PSP-levels in pregnant women without infection are in the same range as in non-pregnant patients without infection.
We are still in the process of data sampling, the role of PSP as an early marker of preg nancy-associated inflammatory complications has to be evaluated.

Discussion: Pregnancy associated complications such as PPROM, intra-amniotic infection, preeclampsia or HELLP syndrome are major causes for maternal, fetal and neonatal morbidity and mortality. Whether PSP is a better biochemical biomarker as PCT, IL-6 or CRP in prediction of severe complications of mother or fetus in the above mentioned pregnancy associated complications will be evaluated after inclusion of more pregnant women.

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FUNCTIONAL DOWN-REGULATION OF PLACENTAL GLUCOSE TRANSPORTER (GLUT)-1 IN PRE-ECLAMPSIA

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Transplacental glucose supply is predominantly regulated by GLUT-1 transporter. Altered expression and/or function of GLUT-1 may affect the intrauterine environment and could compromise fetal development. We speculate that placental GLUT-1 expression is impaired in pre-eclampsia (PE), a disease known to be associated with GDM and IUGR, and could potentially leading to impaired glucose transport and altered fetal programming.

Placentae were obtained after elective caesarean sections following normal and PE pregnancies. Syncytial basal membrane (BM) and apical microvillus membrane (MVM) fractions were prepared from syncytiotrophoblast (STB). Protein expression was assessed by western blot analysis and mRNA levels were quantified by rt-PCR. Radiolabeled glucose uptake assay and a transepithelial transport model using primary cytotrophoblasts (CTBs) were established to determine glucose transport activity.

GLUT1 protein expression was significantly down-regulated in PE placentae compared to control placentae, while mRNA expression was unchanged. Glucose up-take into syncytial microvesicles was significantly reduced in PE compared to control. In a transepithelial transport model, phloretin-mediated inhibition of GLUT1 at the apical side of primary cytotrophoblast cells showed a significant shift of the transepithelial glucose transport. Using phloretin at IC50 concentration, 50% of 3-OG transport is reached after 424.6±66.5 min; while without phloretin inhibition after 343.9±34.5 min ($p=0.0025$, One way ANOVA).

Our study for the first time shows that in PE, placental GLUT1 is down-regulated on protein level and glucose transport activity is decreased. Altering glucose transport activity by inhibition of apical GLUT-1 indicates that transplacental glucose transport might be regulated on the apical side of the STB. These results might help to elucidate the regulation of GLUT1 transporter and to develop preventive strategies to modulate glucose transport in PE as well as in GDM, aiming to reduce the risk for metabolic and cardiovascular diseases for the child later in life.

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OUTPATIENT MANAGEMENT IN PREGNANT WOMEN WITH PREMATURE RUPTURE OF MEMBRANES (PROM) AT TERM: MATERNAL AND PERINATAL OUTCOME

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Introduction: PROM occurs in 8% of all pregnancies after 37 weeks of gestation. In more than 60% of cases spontaneous labor begins within 24 hours when it is managed expectative. There is a controversial discussion how patients with PROM should be managed: inpatient or outpatient management. To date there is insufficient data in the current literature.

Materials & Methods: We retrospectively analyzed 239 patients (inpatient N=202 (Gr. A), outpatient N=37 (Gr. B)), between 06/2010 and 09/2013. The inclusion criteria for outpatient management in the low risk collective were: singleton pregnancy, ultrasound without abnormal findings, normal fetal heart rate, no sign of infection (White Blood Count < 15 G/l, C Reactive Protein < 10mg/l, Temperature < 38.0°C), Group B Streptococcus negative, lack of contractions and clear amniotic fluid. Women returned for one single visit 12 h after PROM. In case of absence of spontaneous labor, labour was induced within 24 hours after PROM.

We compared maternal (induction of labour, mode of delivery, need of antibiotics, use of analgesic) and fetal outcome (pH, 5min APGAR, transfer to the neonatological intensive care unit (NICU)) as well as the length of hospitalization.

Results: In group A 124 (61.7%) women were induced vs. 21 (56.8%) in group B. 125 women (61.9%) in group A delivered spontaneously vs. 27 (73%) in group B, 50 (24.8%) had a vaginal operative delivery vs. 6 (16.2%) in group B and 27 (13.4%) had a caesarean section vs. 4 (10.8%) in the outpatient population. In group A, 22.8% had signs of a chorioamnionitis during labour vs. 16.2% in group B. 13.4% in group A received antibiotics vs. 8.1% in group B.

The use of analgesic was comparable in both groups, so the neonatal outcome (NICU stay 9.41% for Group A vs 5.41% for Group B, p=0.75). Except for length of stay, which was shorter in group B (26 vs. 18 hours, p=0.003), there was no significant difference between the two groups.

Conclusion: Outpatient management of PROM was associated with a significantly shorter length of stay in hospital. The maternal or fetal outcome was comparable. An outpatient management of PROM in selected cases seems to be a reasonable option especially in times of increasing cost pressures.

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GLYCOSYLATED HEMOGLOBIN (HBA1C) IN THE FIRST TRIMESTER OF PREGNANCY

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Introduction: Gestational diabetes mellitus (GDM) is an increasingly common maternal condition with proven maternal and fetal morbidity. Glycosylated hemoglobin (HbA1c) is a form of hemoglobin that characterizes a patient's plasma glucose over a prolonged period of time. The American Diabetic Association (ADA) supported the use of HbA1c for the diagnosis of diabetes rather than the measurement of fasting or post-prandial plasma glucose in a non-pregnant population. A value of ≥6.5% (≥48mmol/mol) was proposed as the criterion for diagnosis. A partial aim of our study was to assess if a first trimester HbA1c value of 5.7-6.4% (prediabetes) could be an early predictor of progression to gestational diabetes (GDM).

Material and Methods: This is a prospective cohort study performed on all women who delivered at a single institution over 1.5 years who had an early screening HbA1c test performed in the first trimester of pregnancy. The primary outcome was the diagnosis of GDM. Secondary outcomes included mode of delivery, maternal weight gain, neonatal birthweight, and neonatal morbidities. The prevalence of GDM in women with a first trimester HbA1c value of 5.7-6.4% was compared with that of women with an HbA1c < 5.7%. Continuous variables were analysed by unpaired Student's t -test or Mann-Whitney U-test. Proportions were analysed using Chi2 test. Statistical significance was considered when p-value <0.05.

Results: There were 280 women who met inclusion criteria during the study period: 263 of them had an HbA1c level of < 5.7% (group 1), and 17 (7.4%, group 2) between 5.7 and 6.4%. Middle gestational age at study inclusion was 9 4/7 weeks.
The prevalence of GDM in the entire study population was 37/280 (13%). Women in the second group had a 3-fold increased risk to develop GDM (HbA1c 5.7-6.4%: 35% vs HbA1c < 5.7%: 11%, OR 4.1 95%CI 1.4-11.8; p=0.0147). There were no significant differences in mode of delivery, neonatal birthweight, prevalence of macrosomia, or neonatal morbidities.

Conclusion: Pregnant women with a first trimester HbA1c of 5.7-6.4% are at substantially higher risk to develop gestational diabetes. Pre-gestational diabetes should therefore be considered as additional risk factor and prospective studies should focus on question if early intervention versus standard GDM management in the third trimester is associated with a better short and long term maternal as well as neonatal outcome.

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COMPARING THE ALL FOURS POSITION WITH THE LITHOTOMY POSITION IN VAGINAL BREECH DELIVERY

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Introduction: The use of the all fours position during vaginal breech delivery is increasing. In our hospital, we have been encouraging the use of this position during the second stage of labor since 2012. The aim of this study is to show the feasibility and the safety of delivery of the all fours position compared to the lithotomy position.

Material and Methods: This retrospective case control study of vaginal term breech deliveries at our cantonal hospital compares successful vaginal deliveries in the all fours position (n=42) between July 2012 and January 2015 with those who delivered in the lithotomy position prior to July 2012. Two cases were excluded due to multiple pregnancy (n=1) and prematurity (n=1). To compare the all fours group with the lithotomy group we assigned a 1:1 matching analysis based on similar characteristics for birth weight, parity and the use of PDA. 9 cases of the all fours group were excluded due to non-existing matches. Thus, 31 matches were included in the analysis.
Outcome parameters were umbilical artery pH of the newborn, 5-minute Apgar score, hypoxia (umbilical artery pH <7), blood loss, maternal birth injury, duration of the second stage of labor and postnatal transfer to a neonatal care unit.
For statistical analysis, we used the Wilcoxon sign-rank test and McNemar's test for binominal variables, as required.

Results: There was no significant difference between umbilical artery pH of the newborn, 5-minute Apgar score, hypoxia, blood loss, duration of the second stage of labor or postnatal transfer to the neonatal care unit between the two groups. Maternal injuries of the birth canal occurred significantly less often in the all fours position group (p= 0.016, OR= 0.69; 95% CI: 0.53-0.91).

Conclusions: In the all fours position, the mechanical processes for vaginal breech delivery are optimized since the mother's position automatically uses gravity to aid childbirth. Our results are in line with other research groups that the all fours position is a safe option for vaginal breech delivery for both, mother and child.

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PREIMPLANTATION FACTOR BOLSTERS NEUROPROTECTION VIA MODULATING PROTEIN KINASE A AND PROTEIN KINASE C SIGNALING

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A synthetic peptide (sPIF) analogous to the mammalian embryo-derived PreImplantation Factor (PIF) enables neuroprotection in rodent models of experimental autoimmune encephalomyelitis and perinatal brain injury. The protective effects have been attributed, in part, to sPIF's ability to inhibit the biogenesis of microRNA let-7, which is released from injured cells during CNS damage and induces neuronal death. Here, we uncover another novel mechanism of sPIF-mediated neuroprotection. Using a clinically relevant rat newborn brain injury model, we demonstrate that sPIF, when subcutaneously administrated, is able to reduce cell death, reverse neuronal loss and restore proper cortical architecture. We show, both in vivo and in vitro, that sPIF activates PKA/PKC signaling, leading to increased phosphorylation of major neuroprotective substrates GAP-43, BAD, and CREB. Phosphorylated CREB in turn facilitates expression of Gap43, Bdnf and Bcl2 known to play important roles in regulating neuronal growth, survival, and remodeling. As is the case in sPIF-mediated let-7 repression, we provide evidence that sPIF-mediated PKA/PKC activation is dependent on TLR4 expression. Thus, we propose that sPIF imparts neuroprotection via multiple mechanisms at multiple levels downstream of TLR4. Given the recent FDA fast track approval of sPIF for clinical trials, its potential clinical application for treating other CNS diseases can be envisioned.

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NEAR-TERM DELIVERY AFTER LAPAROSCOPIC TREATMENT OF PLACENTA PERCRETA RETENTION IN A CESAREAN SCAR: A CASE REPORT

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Introduction: Placenta percreta retention within the scar of a previous cesarean section is rare. Treatment remains controversial and different methods have been reported with variable success rates. We report here one of these cases treated successfully by laparoscopy and followed by near-term delivery two years later by planned cesarean section.

Materials and Methods: We report a case of placenta percreta in the cesarean scar in a 24-year-old patient with a history of cesarean section. One year later, an intrauterine low localized pregnancy was diagnosed at 8 weeks, with a missed abortion at 10 weeks. A D&C was performed, with removal of some trophoblastic tissue. The post-operative course was complicated by uninterrupted moderate bleeding associated with pelvic pain. Three weeks later, because of the persistent symptoms, a trophoblastic retention with placenta percreta was diagnosed by ultrasound. We decided to treat the patient by laparoscopy.

Results: The laparoscopy showed the anterior uterine isthmus with a hemorrhagic mass of 5 cm with complete dehiscence of the scar, but without intra-peritoneal rupture. After dissecting the mass from the bladder, a double hysterotomy was performed above and below the mass, which was detached from the uterus and removed vaginally. Finally, the uterine dehiscence was closed with laparoscopic suturing by two layers of separate absorbable sutures. The post-operative course was uneventful. Four-months later, the ultrasound showed a good scar with a line of 4,5mm thickness. Two years later, after an uneventful pregnancy, the patient gave birth to a healthy baby by planned cesarean section at 38 weeks of amenorrhea. Intraoperative assessment demonstrated a thick anterior uterine isthmus, without dehiscence.

Conclusions: During the first-trimester of pregnancy, in a patient with past history of cesarean section, it is important to eliminate by ultrasound an ectopic implantation or a placenta percreta in the scar. Management by operative laparoscopy can be an option as it treats the actual problem with the removal of placenta percreta retention. Even if the rational to treat laparoscopically the placenta percreta retention in the cesarean scar has to be demonstrated, a surgical repair of the uterus may help to preserve fertility with the opportunity of a normal pregnancy and a near-term delivery following the procedure.

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PREDICTION OF GESTATIONAL DIABETES IN FIRST TRIMESTER USING THE NEW INTERNATIONAL ASSOCIATION OF DIABETES IN PREGNANCY STUDY GROUP CRITERIA

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Objective: The aim is to examine an early oral glucose test 75g using the new International Association of Diabetes in Pregnancy Study Group (IADPSAG) criteria in maternal serum concentration at 13 to 15 gestational weeks in normal pregnancies and pregnancies complicated by gestational diabetes mellitus (GDM) and to create a first trimester prediction model for GDM.

Methods: In an ongoing prospective, planned multicenter study, approved by the ethical committee, an early oral glucose test 75g is performed in first trimester. According to the power calculation and a calculated drop out rate of 10% 550 women with singleton pregnancies will be included. The primary outcome is the development of gestational diabetes diagnosed by standard testing (oral glucose tolerance test in 24 to 28 weeks of gestation). Secondary endpoints are delivery outcome, neonatal morbidity, neonatal mortality, maternal morbidity, costs

Results: Until end of February 2015 all 3 of 28 women (10.7%) diagnosed for gestational diabetes by late oral glucose tolerance test had already a pathologic test at 13 to 15 weeks of gestation using the IADPSAG criteria. There were no woman with conspicuous values in early pregnancy and normal results in late gestation.

Conclusions: The oral glucose test 75g using the new IADPSAG criteria may provide an effective first trimester screening for GDM.

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UTERINE PRESERVATION IN A PATIENT WITH PLACENTA PRAEVIA PERCRETA

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Introduction: Abnormally invasive placenta (AIP) such as placenta percreta, based on previous uterine surgery, is associated with increased maternal morbidity and mortality. It usually leads to a planned caesaren section (CS) mostly followed by hysterectomy. We report a case of placenta praevia percreta with uterus preserving surgery.Case report: A 30 year old G II PI was admitted at 28+1 weeks of pregnancy (wp) because of recurrent vaginal bleeding due to placenta praevia percreta. In 2012 a CS had been carried out after failure of induced labour. Ultrasound and MRI confirmed a placenta praevia percreta in the area of the scar of the CS. As the patient asked for a local treatment preserving the uterus we invited J. Palacios-Jaraquemada as a distinguished expert in this field. A protective insert of ureter double-J stents bilaterally was carried out 2 days prior to CS. On the day of surgery, 34+6 wp, insertion of a Reliant Balloon Catheter into the aorta was performed under spinal anesthesia initially before CS. After Pfannenstiel-incision the fascia was opened by longitudinal section. After laparotomy vesicouterine fold was sectioned by dissecting and ligating perforating percreta vessels and neoformation vessels between the uterine segment and the bladder, described by Palacios et al.(1). Hysterotomy was performed in the upper section of the dissected segment, avoiding the placental invasion area. The child was delivered from transverse position (2750 g, APGAR 9/7/9). After changing to general anesthesia the aortic Reliant Balloon was inflated for 10 minutes due to increased bleeding from placental vessels. The partial uterine front wall was removed together with the adherent placenta and the uterus reconstructed by closing the myometrium by double layer sutures. The patient received 375 ml cell saver blood, 2 erythrocyte concentrates, 2 g Cyclocaprone and 4 g Fibrinogen with a total blood loss approximately 3000 ml. The double J was removed directly after the operation. The patient had an uneventful postoperative stay of 5 days. Placenta percreta was histologically confirmed.

Conclusion: In selected cases with AIP a uterine-preserved surgery may be possible. This requires an accurate diagnosis, a transfer to a center hospital, the organisation of a multidisciplinary team with skills in treating these conditions, but also very intensive team work with effective communication in order to reduce maternal and fetal morbidity.

1.Palacios Jaraquemada JM et al Anterior placenta percreta:surgical approach, hemostasis and uterine repair Acta Obstet Gynecol Scand 2004: 83: 738—744

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SIMULATION TRAINING WITH SIMONETM, NOELLE® OR DESPERATE DEBRA® – HANDLING AND PITFALLS

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Introduction: Perinatal and neonatal complications can be reduced by developing emergency drills for major events. To achieve this goal various simulation models were introduced into clinical training. The handling or pitfalls of different obstetric models are presented.

Materials and methods: At the University Hospital Zurich 3 different models are used for simulation. SIMoneTM is used to train instrumental vaginal delivery. Desperate Debra® is a model for delivery of the impacted head during caesarean section (C-section). While these 2 models train manual skills, Noelle® additionally offers training of communication skills and teamwork.

Results: SIMoneTM indicates correct or incorrect angles of traction in instrumental vaginal delivery. However, it cannot simulate supportive actions such as enhancement of contractions by oxytocin. Desperate Debra® offers several levels of difficulties in delivering an impacted fetal head during C-section. A vaginal examination is possible to identify the fetal's head position. The model allows rotation and flexion of the fetal head after insertion of a hand into the caesarean incision and between the fetal head and uterus. A flexible silastic cup may help to push up the impacted head from vaginal. Furthermore, Desperate Debra® enables the use of C-snorkel to release the vacuum and to dislodge the head. However, the missing shoulders and legs of the model do not allow the lifting of the shoulders or the development of the baby by grabbing the feet and extracting by breech. Noelle® is a family of different birthing simulators. Those allow for immediate "on-the-fly" simulation scenario changes to primarily improve communication, leadership, and decision-making in a team. She can also be used to optimize proceedings in a team for critical events such as shoulder dystocia, postpartum hemorrhage or eclampsia. The latest model Noelle s2200-Victoria®, which is completely wireless and mobile, allows even features such as C-section deliveries or the delivering of a newborn having signs of distress that require immediate intervention. Film documentation, standardized questionnaires and briefing by specialists help to evaluate the setting.

Conclusion: Simulation training with several simulation models provides a useful tool for training obstetrician staff on all levels of work experience. While every model can be used for optimizing manual skills the Noelle® models allow additionally training and reflecting on medical team interactions.

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FETAL ANEMIA IN MONOCHORIONIC TWINS: A THERAPEUTIC CHALLENGE

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Introduction: Fetal anemia is a rare disease with poor prognosis if not treated. Treatment is particularly challenging in monochorionic diamniotic pregnancies (MCDP) were 1 or 2 fetuses are anemic. Habitually the interfetal anastomoses are helpful, this may be opposite when only 1 fetus is anemic. We present 4 MCDP in which transfusions were required to treat anemia.

Case:1 33y,4G2P with anemia of 2 twins at 22 3/7 GW due to feto-maternal haemorrhage (HbF 1.4%!) after trauma. At 22 4/7 GW 2 fetuses had hydrops and ACM PSV >1.5MoM. Intrauterine transfusion (IUT) of 60ml (fHb 6g/l) and 80ml (fHb 7.3g/l) was performed to A. ACM PSV of both twins improved and PSV stabilized to normal ranges also in the non-transfused twin. C-section at 32 weeks gestation due to selective growth restriction. Both neonates did well.
Case 2: 36y,1G0P with anemia of both twins at 27 1/7 GW due to alloimmunization to anti-D and anti-C antibodies. IUT at 27 5/7 (fHb 6.5g/l, 30ml), and 29 5/7 (fHb 9g/l, 55ml) in A and then B, respectively. MCA PSV improved to normal in both fetuses. C-Section at 32 weeks because of pPROM. The neonates did well after 7 days NICU stay. A: 124g/l; B: 151g/l.
Case 3: 26y,2G0P with twin to twin transfusion syndrome (TTTS) II at 19 GW and laser treatment. Thereafter twin anemia policythemia sequence (TAPS) needing 3 transfusions at 22 4/7 (fHb 2.9g/l), 23 5/7 (fHb 5g/l) and 26 5/7 (fHb 3g/l). While MCA PSV of the anaemic twin showed a typical behaviour, the PSV of the co-twin decreased after each IUT. C-section at 31 2/7 weeks. Both children did well. A: Hb 207g/l, Hc 0.57%; B: Hb 144g/l, Hc 0.4%.
Case 4: 32y,G4P3 with TTTS III and laser therapy at 20 3/7 GW. TAPS at 26 weeks. The policythemic twin showed a low PSV with reversed diastolic flow. After IUT (fHb 3.5g/l, only 12ml) at 26 2/7 weeks, 2 intraperitoneal transfusions to the anemic fetus (A) were performed at 26 5/7 (42ml) and 27 5/7 (62ml). PSV A stabilized <1.5MoM while MCA remained low in B. C-section at 31 week because of recurrence of TAPS. fA: Hb 81g/l, Hc 26%; fB: Hb 238g/l, Hc 66%. Both neonates did well after 12 days NICU stay.

Conclusion: Interfetal anastomoses are responsible for many of the complications in MCDP, but may be used to treat cases were both fetuses are anemic. The treatment of TAPS is more challenging as this process is more aggressive and treatment of the anemic fetus may pose the policythemic one high risk for thrombotic problems. Intraperitoneal transfusion may be an option to minimise policythemia.

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NEGATIVE PRESSURE WOUND TREATMENT FOR NECROSIS OF THE UTERINE WALL FOLLOWING CESAREAN SECTION – A CASE REPORT

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Introduction: Infectious postcesarean uterine wall dehiscence is a rare complication estimated to occur in 1:700 – 1:2'400 cases of cesarean deliveries. The usual management of uterine incisional necrosis with dehiscence is hysterectomy as described in literature. We report a case, where uterine installation of a negative pressure wound treatment (NPWT) successfully avoided hysterectomy. The use of an NPWT on a uterus has never been reported before.

Case: The previously well primigravida had undergone cesarean section at 39.4 weeks of gestation because of suspected chorioamnionitis and arrest of descent in 1st stage of labor. The delivery was through a Pfannenstiel skin incision and a low transverse uterine incision, which had to be extended by a T-shape-incision.

Approximately 48 hours post partum the patient developed sepsis with ESBL in blood-cultures and Ertapenem was administered. Despite good clinical condition a persistence of intermittent fever spikes and rise of infection parameters was observed. On the 10th postoperative day an abdominal ultrasound examination revealed a fluid-collection at the uterine incision. Exploratory relaparotomy was performed and confirmed an abscess at the uterotomy. Debridement with meticulous rincing of the uterine wall and pelvis was performed. The uterotomy presented unimpaired. Seven Days later, on a follow-up-sonography, reformation of abscess was seen. Second re-laparotomy (Day 17) was performed and revealed at the uterine incision site a necrotic dehiscence over 3cm. Upon internal consultation, decision was taken to install a negative pressure-wound treatment (NPWT) on the site of the dehiscence by means of an open abdomen treatment. There was continuous vacuum applied and dressings were changed two to three times per week in the operating theatre under general anesthesia over a period of 3 weeks. Eventually, secondary closure of the uterotomy was achieved at day 35 after C-Section. After a total of over 50days, the Patient was discharged from hospital in a good general condition together with her newborn daughter.

Discussion: In well-selected patients, temporary open abdomen treatment with negative pressure wound treatment and secondary closure of the uterine incision is an acceptable alternative to hysterectomy for uterine incisional necrosis.

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A MULTI-PROFESSIONAL BOARD FOR PREGNANT WOMEN SUFFERING FOMR MENTAL HEALTH PROBLEMS OR FROM PSYCHOSOCIAL STRESS

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Introduction: Pregnant women who suffer from mental health problems, or are exposed to psychosocial stress, usually need multi-professional support resulting in a variety of interfaces often generating problems. To decrease these communication problems and ameliorate the care for these patients, we started a new project with the aim to establish a multi-professional board analogue to the tumorboard in oncology.

Methodology: The multi-professional board consists of the obstetrician specializied in psychosocial medicine, the social worker, the psychologist from the Women's Clinic, the psychologist from the Neonatology, the pediatrician, the head nurse from the Mother-Child department, the head midwife and a secretary. All pregnant patients with mental health problems independent already existing before or acquired during pregnancy or developed with psychosocial stress are referred to the board. All cases are discussed and the team decides the future steps by consensus. These agreements are binding. The board meets fortnightly and discusses 12 – 15 cases during one hour: First introductions, usually 8 weeks prior to due day, in complex cases earlier; ongoing cases and reviews after delivery. The secretary records the agreements, so everyone the hospital who has contact to the patient is able to follow the decisions.

Results: 9 months after starting a evaluation by internal and external hospital staff was made . Internal members of the board, non members in the clinic and external professionals (as social workers, midwives or doctors) have filled in a questionnaire.

1. The multi-professional cooperation improved, possible problems are anticipated and decisions made earlier.
2. Decisions are conceived as binding and can be found easily.
3. The communication internal and external improved, rit's more obvious who is responsible for what and who can be contacted.
4. The knowledge of the complexity of certain situations increased.

Conclusion: A multi-professional board for pregnant women who suffer from mental health problems or are exposed to psychosocial stress is a worthwhile method to improve the treatment, the communication and the knowledge in a obstetrical clinic.

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CHARACTERIZATION OF THE PLACENTAL URIC ACIDE TRANSPORT SYSTEM

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Objectives: Pre-eclampsia is associated with increased maternal urate serum levels. Hyperuricemia might lead to longterm maternal cardiovascular risk and to fetal programming. The regulation of the placental urate transport system is not yet understood, but is likely to be predominantly regulated by GLUT-9 (glucose-transporter 9), besides the mulittransporter hOAT4 (human organic anion transporter). The aim of this study was to investigate the placental urate transport system and to characterize its transporter GLUT9.

Methods: Electrophysiological techniques and radioactive ligand up-take assay were used to measure transport activity of GLUT9 overexpressed in Xenopus oocytes, and its activity under various conditions. We further analysed the placental GLUT9 expression using novel self-raised antibodies against human isoforms GLUT9a and -b.

Results: In the Xenopus oocytes system chloride replacing chloride with iodine resulted in a complete loss of urate transport. In radioactive up-take experiments iodine had no effect on urate transport. Both GLUT9 isoforms are present in the microvillous membrane (MVM) of the syncytiotrophoblast cells, but not in the basal membrane (BM).

Conclusions: Our results indicates that urate transport in the placenta is unidirectional in the feto-maternal direction, because GLUT9 isoforms are expressed exclusively in the microvillous (apical) membrane of the trophoblast and because the organic anion transporter isoform 4 (OAT4) is known be localized on the basal membrane and to transport urate unidirectionally into trophoblast cells. Furthermore, GLUT9 uric acid transport activity is iodine-regulated by changing the mode of up-take from an electrogenic to an electroneutral transport. This may allow regulating urate transport by the change of an active to a passive transport.

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CELL-TO-CELL CONTACT OR PARACRINE FACTORS: UMBILICAL CORD STEM CELLS DIRECT NEURAL PROGENITOR CELLS TOWARDS AN OLIGODENDROGLIAL FATE

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Wharton's jelly mesenchymal stem cells (WJ-MSC) from the umbilical cord might be ideal candidates to cure perinatal brain damage and other central nervous system disorders. Their secretome has been shown in vitro and in vivo to have beneficial effects on neurogenesis and neuroregeneration. Still, it is not clear if cell-to-cell contact may equally contribute to this positive effect. Therefore, the objective of this study is to elucidate through which of these two mechanisms neuroregeneration ought to be triggered the most in vitro.

The effect of WJ-MSC on the expression of neuroglial markers in neural progenitor cells (NPC) was assessed in vitro in conditioned medium and co-culture experiments by immunocytochemistry, real-time PCR and western blot. Furthermore, the differences between WJ-MSC derived from term or preterm deliveries were evaluated. Additionally the secretome of WJ-MSC was analyzed by mass spectroscopy and with a membrane-based antibody array.

Hippocampal NPC at passage 3 showed an increased expression of glial markers such as myelin basic protein (Mbp), galactocerebroside or glial fibrillary acidic protein (Gfap) after exposure to WJ-MSC-conditioned medium (CM) or after direct contact to WJ-MSC. Interestingly, WJ-MSC from term deliveries induced more strongly the expression of glial markers when compared to preterm. Co-cultures with direct cell-to-cell contact had a more prominent effect on the expression of glial markers compared to CM or transwell co-cultures.

WJ-MSC derived from term deliveries have a different secretome compared to preterm births. This was demonstrated by mass spectroscopy as well as by in vitro experiments. Moreover, cell-to-cell contact may be decisive to induce oligodendroglial differentiation on resident NPC. In conclusion, transplanting WJ-MSC into damaged brains of neonatal infants may enhance and support endogenous remyelination and neuroregeneration.

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OVERWEIGHT AND OBESITY IN PREGNANCY: STILL AN ALARMING TREND?

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Introduction: Overweight and obesity are still considered as major health issues, especially during pregnancy. For the time span between 1986 and 2004 we found a significant increase in pre-pregnancy weight, BMI and weight gain during pregnancy. In clinical practice we gained the impression that this trend is still persistent. In order to verify this hypothesis, we analyzed the data of the year 2014 and compared the results with the already published study of 2009 based on the data of 2004 (Swiss Med Wkly 2009; 139(3-4): 52-55).

Methods: A retrospective study was performed on all women who gave birth in our hospital in 2014. The following criteria were recorded: ethnicity, parity, maternal age, initial weight, height, booking weight, BMI, weight gain during pregnancy, maternal birth weight, birth procedure, gestational age at delivery and neonatal weight. These results were compared with the figures of 2004. We have excluded multiple pregnancies as well as cases with incomplete data sets.

Results: After the exclusion of 82 cases, 1007 singleton pregnancies remained for the analysis. We found no evidence for a significant increase in the BMI (22.5 in 2014, 22.5 in 2004), overweight (18.5%/17.0%), obesity (10.3%/8.9%), weight gain >15kg (46.4%/44.9%), weight gain >20kg (15.7%/14.2%) and birth-weight ≥4000g (9.8%/10.3%). There was also no further increase in the rate of caesarean section (31.5%/28.3%) and the rate of vaginal operative deliveries (11.3%/13.0%).

Conclusion: Against the background of the conducted study, the hypothesis of a continuing trend towards overweight, obesity and also an increase in weight gain during pregnancy could not be confirmed. However, the results cannot hide the fact that the rate of women with overweight and obesity during pregnancy is still too high. The high number of women who gain too much weight during pregnancy is problematic as well.

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UMBILICAL ARTERY AND MIDDLE CEREBRAL ARTERY PEAK SYSTOLIC VELOCITIES IN MONOCHORIONIC TWIN PREGNANCIES COMPLICATED BY SELECTIVE GROWTH RESTRICTION

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Introduction: Selective intrauterine growth restriction (sIUGR) in monochorionic twins (MC) is associated with increased risk for perinatal mortality and morbidity. Umbilical artery (UA) and middle cerebral artery (MCA) Doppler are considered important tools to assess fetal adaptation to placental insufficiency. In 2007 Gratacos et al. proposed a sIUGR classification based on morphologic UA Doppler patterns of the smaller twin. However, longitudinal studies have shown, that a significant number of cases change the type repeatedly making it difficult to use for clinical management. An alternative way to better characterize sIUGR is needed. It is known, that singleton IUGR foetuses have a lower UA peak systolic velocity (PSV) and higher MCA PSV. We have chosen to use PSV's as in type III sIUGR the UA pulsatility index is not measurable. The aim of our study was to evaluate how these Doppler parameters behave in a complex hemodynamic situation like MC with sIUGR.

Material/methods: This is a cross sectional study investigating on MC twins complicated by sIUGR. sIUGR was defined as the smaller twin with an estimated weight <10th percentile and an inter-twin birth weight discordance of more than 20%. All cases underwent Doppler measurement of the MCA and UA PSV. The ratio between the MCA and UA PSV – the rPSV - was calculated for each twin. We used only the first measurement at study entry for statistical purposes. Correlations between both twins and with the original Gratacos types were searched.

Results: We included 30 cases at a mean gestational age of 27±4.5 weeks. Of those, 17 were Gratacos type I, 6 type II, and 7 type III. The smaller twin showed a significantly lower UA PSV than the co-twin (31.3±11 vs. 49.8±15; $p<0.0001$). However, although the MCA PSV was higher in the smaller twin (36.2±13 vs. 33.2±11; $p=0.2$) the difference did not reach significance. rPSV was - similarly to UA PSV - lower in the smaller twin than in the co-twin (0.96±0.43 vs. 1.64±0.7; $p<0.0001$). Of interest, no correlation was found between the analysed velocity parameters and ratios of both twins and the Gratacos classification system.

Conclusion: Similar than in singleton foetuses with IUGR, growth restricted MC twins show characteristic Doppler findings associated with placental insufficiency. More cases and further studies are necessary to correlate our findings with clinical parameters. Moreover, longitudinal observations may have the potential to better classify this enigmatic monochoriale pathology.

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FATAL COMBINATION OF TWO RARE COMPLICATIONS IN OBSTETRICS: LOW-LYING-IMPLANTATION ECTOPIC PREGNANCY (LLIEP) AND PLACENTA PERCRETA – A CASE REPORT

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Introduction: We describe the rare case of an ectopic pregnancy, which - in combination with a placenta percreta - unfortunately proofed to be lethal.

Materials/Methods: A 30-year-old patient, at 19+1 weeks of pregnancy, showing a hemorrhagic shock syndrome, was admitted to the interdisciplinary emergency room of our clinic. After ultrasonografic examination of the abdomen and with this severe condition we suspected an intraabdominal bleeding of unknown origin. Although the presence of a vital pregnancy was confirmed by ultrasound, the decision for immediate emergency laparotomy was made. We found the cause for the heavy bleeding by a ruptured posterior wall of the uterus, through which heavily bleeding, placental mass was prolapsing into the abdomen. To save the young mothers life the fetus was extracted and hysterectomy was performed. Despite massive transfusion and maximal treatment on ICU the patient died of multiple organ failure, 17 hours after admittance. The pathological examination ultimately showed an implantation of the pregnancy in the area of the cervico-isthmic region, at the posterior wall of the uterus. In addition, perforation of placental tissue through the uterine wall was also described, a complication we know from conditions with placenta percreta.

Results: In our case the extremely rare combination of a so called low-lying implantation ectopic pregnancy (LLIEP), implanted in the cervico-isthmic region, as well as a placenta percreta were found to be the causes for this fatal bleeding.

Conclusion: Both, LLIEP as well as placenta percreta by themselves are very rare diagnoses in obstetrics - a combination of both has rarely been described in literature before. The special form of a LLIEP in the cervico-isthmic region is, if even possible, more difficult to diagnose than LLIEP's in the sector of the cervix or the scar of a former caesarian section. Conditions like placenta percreta require a great deal of obstetric experience and knowledge for diagnostic, monitoring and treatment: state of the art in terms of diagnosis is the ultrasound-diagnostic and first line therapy is usually a combination of caesarian section and hysterectomy. Due to the increased risk of hemorrhage, a multidisciplinary supervision involving obstetricians, anesthesiologists, ICU and maybe interventional radiologists and surgeons is necessary. Nevertheless mortality rate of placenta percreta lies at about 7%.

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SEVERELY BLEEDING MECKEL'S DIVERTICULUM OF THE MOTHER COMPLICATING PREGNANCY

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Introduction: Gastrointestinal bleeding (GIB) in pregnant women is associated with increased morbidity and mortality for both mother and unborn. The upper and lower GI-tract is easily accessible during endoscopy for both diagnosis and treatment. However, small bowel bleeding is difficult to detect and current diagnostic tools such as contrast enhanced computed tomography (CT) or capsule endoscopy are rather unfavorable in pregnancy or time-consuming in emergency situations. We present a case of severe small bowel bleeding from a Meckel's diverticulum in a pregnant woman.

Case: A 34-year-old gravida II para II, at 38 weeks of gestation presented at our obstetrics emergency department with a three days history of melena and right lower quadrant abdominal pain. Additionally, the patient complained about dizziness and cold sweat. Clinical finding showed normal heart rate and blood pressure. Laboratory revealed a hemoglobin level of 67 g/l. Emergent gastrointestinal panendoscopy showed however normal upper and lower GI findings. Due to a further decrease of hemoglobin to 44 g/l an emergent Cesarean section was performed. Abdominal exploration via Pfannenstiel incision revealed an ileal Meckel's diverticulum of 10 cm diameter located 80 cm toward the oral side from the ileocecal valve. An ileum segment resection including the diverticulum with primary end-to-end hand anastomosis was performed. Histological examination indicated that the diverticulum had a normal ileal layer with ectopic gastric mucosa and pancreatic tissue. Transfusion of 4 erythrocyte concentrates (EC) was necessary to increase the hemoglobin level to 88 g/l. The further postoperative course was uneventful for both mother and newborn.

Conclusion:
In cases of severe GIB during pregnancy, immediate location and treatment is of outmost importance to decrease potential harm for mother and fetus. However, small intestine is difficult amenable in order to draw a rapid diagnosis. Furthermore, diagnostic tools are limited either due to contraindication (i.e. CT) or time consuming processes until confirmation of diagnosis (i.e. capsule endoscopy). In emergent cases of life-threatening GIB, i.e. due to a Meckel's diverticulum a surgical approach via diagnostic laparoscopy or exploratory laparotomy depending on gestational age leads to an immediate diagnosis and appropriate treatment.

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PRENATAL DIAGNOSIS OF NEONATAL MARFAN SYNDROME: A CLINICAL CASE REPORT AND LITERATURE REVIEW

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Introduction: Neonatal Marfan Syndrome (nMFS) is a very rare autosomal-dominant connective tissue disorder caused by a mutation of the FBN1 gene on chromosome 15q21. It is usually caused by de novo mutations clustering between exons 24 and 32 specific for fetal oder neonatal forms, thus representing a distinct genetic and pathological entity. nMFS is characterized by the same features as in "classic" MFS, but additionally congenital flexion contractures, a characteristic "aged-appearance" of the face and dysplastic ears are reported. Cardiac complications such as cardiomegaly and aortic root dilatation are responsible for a significant fetal morbidity and mortality. We report on a case of a prenatally diagnosed neonatal MFS with severe cardiovascular and skeletal manifestations.

Material and Methods:
A 38-year-old healthy G 3 P 1 was referred at 32 3/7 weeks of gestation with a suspicion of head and brain anomalies. Among other findings ultrasound revealed a female fetus with elongated bones above the 95.Percentile and arachnodactyly, a flat profile with prefrontal skin thickening, loose skin and flexion contractures of the limbs. Fetal echocardiography demonstrated cardiomegaly with postvalvular dilatation of aortic root and pulmonary artery. All cardiac valves were dysplastic and insufficient, however without evidence for fetal compromise or cardial decompensation. nMFS was suspected due to all presenting features. After review of the literature and an interdisciplinary discussion the prognosis was determined as very poor and a palliative approach was chosen after extensive counseling of the parents. The patient presented at 33 3/7 weeks of gestation with intrauterine death after absent fetal movements for 2 days and was subsequently induced to deliver vaginally.

Results: Sonographic findings were strongly confirmed by the fetus` appearance. Molecular genetic analysis showed a heterozygous mutation in intron 30 to exon 31 of FBN1, conclusive with neonatal nMFS.

Conclusion: Our literature review showed that most case reports of nMFS were diagnosed after birth. Since 1981 only very few cases are described prenatally. Differential diagnoses include Beals-Hecht-Syndrome, Loeys-Dietz Syndrome or others. nMFS remains to have a very poor prognosis. Early diagnosis is essential for perinatal management and family counselling.

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IN UTERO LOWER LIMB ARTERIAL THROMBOSIS: A CASE OF INHERITED ANTITHROMBIN III-DEFICIENCY

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Introduction: We present a case of fetal lower limb arterial thrombosis discovered at birth together with a review of the literature related to inherited thrombophilia and risks for the pregnancy.

Methods: A 30 year old, gravida 3, para 2, had a vaginal delivery in our hospital at 36 6/7 weeks of pregnancy. The new-born presented signs of chronic left lower limb hypo-perfusion (cyanosis, hypotrophy, absent femoral pulse) due to arterial thrombosis. The final diagnosis is congenital deficiency in antithrombin III (AT III). We compare this clinical presentation with the literature.

Results: Further examination by Doppler Echography, MRI and CT scan showed a superficial femoral artery occlusion but also multiple thrombosis of the portal vein, lower vena cava and right transverse sinus. An AT III deficiency was discovered (activity of 17% out of 70-130% for the normal range). Subsequently, her asymptomatic father was found to hold the same deficiency. Local thrombolysis was performed and Heparin treatment undertaken. Substitution with human AT III was rapidly initiated and a total resolution of the symptoms obtained.

Conclusions: Spontaneous arterial neonatal thrombosis is an extremely rare event (incidence 1.2/100'000) and accompanied by high morbidity and mortality rates. It is usually linked to obstetrical risk factors such as caesarean section, maternal diabetes, IUGR or fetal vascular abnormalities. However, a congenital disorder is rarely the cause. The prevalence of inherited antithrombin III-deficiency ranges between 1/2000-5000 in the general population and it is usually inherited in an autosomal dominant fashion. It leads to a highly increased risk of thromboembolic events in adult life but only a few cases during the perinatal period have been described in the literature. The pregnant women with AT III deficiency seems to be at higher risk of fetal loss and stillbirth. Anticoagulation treatment during the pregnancy and the postpartum period is recommended.

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MANAGEMENT OF VERY EARLY SPONTANEOUS TWIN ANEMIA-POLYCYTHEMIA SEQUENCE IN AN OBESE PATIENT WITH A WHOLE ANTERIOR PLACENTA

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Introduction: Twin anemia-polycythemia sequence (TAPS) is a rare condition in monochorionic twin pregnancies. TAPS is characterized by small intertwin placental vascular communications through which transfusion results in hemoglobin differences in the twins in the absence of oligohydramnios and polyhydramnios. The antenatal treatment of this condition remains controversial and several management options have been proposed (intrauterine transfusion, laser surgery, expectant management and elective delivery when viability is reached).

Method: We report here the case of a gravida 3 para 2 patient with a monochorionic diamniotic twin pregnancy who developed TAPS at 18 3/7 weeks. The anterior placenta showed significant difference in echogenicity between both twin vascular territories. MCA-PSV were significantly different (0.5 vs 1.89 MoM), and pericardic effusion was observed in twin A (anemic). All options mentioned above were discussed with the couple. Due to maternal obesity (BMI 42) and placenta covering the whole anterior uterine cavity, laser surgery was not possible. The anemic fetus (twin A) thus underwent 3 intrauterine intraperitoneal transfusions at respectively 18, 19 and 20 weeks. At 21 weeks, both twins showed pericardic and pleural effusions. An amniodrainage of 3 liters allowed obtaining a window for trocar insertion next to the anterior placenta. Laser photocoagulation of 15 vascular anastomes was then feasible.

Results: Incomplete premature rupture of membrane of twin A was diagnosed 1 day after laser therapy with progressive oligoamnios, which resolved at 25 weeks. Prophylactic lung maturation was done at 28 weeks. Patient was hospitalised at 29 weeks because of PPROM. Emergency cesarean delivery was performed at 31+3 weeks'gestation due to onset of labor, bleeding and breech presentation. Twin A weighted 1490 g, A 3/6/8, pHa 7.35, pHv 7.40, hemoglobin 146 G/l. Twin B weighted 1480 g, A 4/6/8, pHa 7.31, pHv 7.40, hemoglobin 155 G/l. The neonatal course was uncomplicated. Examination of the placenta revealed no residual anastomoses.

Conclusion: Intrauterine intraperitoneal transfusion is an option when laser therapy is not possible in early onset of TAPS. Laser therapy can be delayed until adequate access to amniotic cavity is obtained, with favorable pregnancy outcome.

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BRAINSTEM TUBERCULOSIS IN PREGNANCY

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Introduction: Tuberculosis is a serious global health problem with nine million annual new cases worldwide. In 2011 approximately 216500 pregnant women had active tuberculosis globally. The majority of the patients were from resource-limited countries.
Primarily a disease of the pulmonary tract it can spread throughout the whole body including the central nervous system as part of a rare miliary tuberculosis: about one percent of tuberculosis patients show an intracranial manifestation. Fortunately, vertical transmission is extremely rare.

Case description: A 19 year old, 29 week pregnant Somali refugee presented with distinct neurologic symptoms of a right-sided sensomotoric hemisyndrome with a left-sided paresis of the oculomotorius nerve and a right-sided facial palsy. Also, she had noticed double vision and a drooping of the left eyelid. This had been preceded by a 3-month history of progressing weakness and numbness of the right extremities and the right side of the face. No history of other medical illnesses.

Diagnostics: A cranial MRI showed a solitary lesion in the left brainstem with annular enhancing and perifocal oedema suggestive for glioma, abscess, parasitical or tuberculosis lesion. Because of her young age and refugee status we focused on an infectious cause. Cerebrospinal fluid examination was unremarkable. Haematological investigations were normal and the TORCH panel test including HIV was negative. Chest X-ray revealed a right-sided hilar lymphadenopathy suggestive of tuberculosis. During a subsequent bronchoscopy a large right-sided intracavitary lymph node was biopsied and histologically diagnosed as granuloma. TB was diagnosed by bronchoalveolar lavage and rapid PCR and she was started on the WHO recommended quadruple regimen for pregnant women: two months of Rifampizin, Isoniazid, Pyrazinamid, Ethambutol followed by 10 months of Rifampizin and Isoniazid. Although the brainstem tumor itself was not histopathologically confirmed as tuberculoma, the neurologic symptoms subsided rapidly and the lesion shrank significantly on starting anti-TB treatment, supporting the diagnosis. The women delivered at 38 week of gestation by caesarean section due to failure in progress.

Conclusion: Although brainstem tuberculosis is rare in pregnant women it should always be considered when assessing unclear intracranial lesion especially in women from endemic countries. Standard TB-treatment is recommended during pregnancy under close observation of mother and child.

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FETO-MATERNAL HEMORRHAGE - A CASE REPORT

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Introduction: Feto-maternal hemorrhage describes the entry of fetal blood cells into the maternal circulation before or during delivery with devastating consequences for the fetus like anemia, neurological deficits, stillbirth or neonatal death. Fetal blood enters the maternal circulation (normally < 15ml) during pregnancy without any clinical significance. An increased feto-maternal transfusion can be due to antecedent history of trauma or may occur spontaneously.

Case Report: A 31-year old woman presented at the hospital at 37 weeks of gestation because of decreased fetal movement since 2 days. She passed a normal pregnancy without any noticeable problems, especially no trauma. CTG at the presentation showed a sinusoidal pattern with reduced beat to beat variability and without any acceleration. Ultrasound biophysical profile showed a fetus without any movement. Immediately we performed a cesarean section. The male newborn appeared noticeably pale with an APGAR-Score 2-0-0 (pH -6,88 BE -22 mmol/l). Because of the cardio-pulmonal depression (heart beat < 60/min) an immediate reanimation and intubation was performed. The hemoglobin value was 33 mg/l. Therefore it was given a blood transfusion (0 Rhesus negative) via an umbilical venous catheter. The newborn was transferred to a Neonatology Intensive Care Unit for hypothermic therapy and neurological surveillance. The Kleihauer-Betke-Test showed a HbF of 10 (promille), which corresponds to 50ml fetal blood (normal < 0,4 (promille)). The histopathological results showed a placenta, which correlates to a feto-maternal transfusion, but no cause could be found. The Newborn could be dismissed after 16 days of hospitalization in a good general state of health and without any neurological deficits.

Conclusion: Decreased fetal activity and a sinusoidal CTG pattern is highly suspicious for fetal anemia, which is more often caused by trauma or placenta disruption, but also can be caused by chronic feto-maternal hemorrhage, which is more common than other causes. In about 80% of feto-maternal hemorrhage, there can no cause be found, which suggests that most of the feto-maternal hemorrhages are spontaneous.

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HYPERTENSIVE DISORDERS IN PREGNANT WOMEN WITH APLASTIC ANEMIA: TWO CASE REPORTS

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Introduction: Aplastic anemia (AA) is a rare bone marrow failure syndrome characterized by bone marrow aplasia and peripheral blood pancytopenia. The pathophysiology of AA is not completely understood. The fact that up to 80% of the patients with AA will respond to immune suppressive therapy (IST) implies an underlying immune pathophysiology. In many patients, the risk of relapse and clonal evolution to myelodysplastic syndrome or myeloid leukemia remains high. Severe thrombocytopenia (Tcp) seems to be more often associated with higher obstetric and disease complications like bleeding, infection, pre-eclampsia, preterm delivery, intrauterine growth restriction (IUGR) and fetal death than non-severe Tcp. Only retrospective case series have been published on this subject.

Material and Methods: We describe two cases of AA in pregnancy with severe hypertensive disorders. Case 1: 32 year old GI P0 with spontaneous monochorial diamniotic twins. She suffered from severe AA and chronic renal failure probably induced by the IST with cyclosporine. At 14+1 weeks of gestation (wg), she had new-onset hypertension and was treated with nifedipine. At 21+2 wg, HELLP-Syndrome developed, with thrombocytes (Tc) at a minimum of 19x10^9/L, hemoglobin 61g/L, elevated liver enzyme values, right upper quadrant pain and hyperreflexia. Because of the possibly life-threatening outcome for the mother, a termination of pregnancy was recommended with transfusion of erythrocytes (Ec) and Tc. She was discharged six days after delivery with a stable blood count. Case 2: 29 year old GIII PI with IUGR. She suffered from non-severe AA which had not required any treatment. During pregnancy, several transfusions of Tc and Ec became necessary. At 22+3 wg she developed premature contractions and preeclampsia. Caesarean section was indicated for non-reassuring fetal heart rate tracings at 25+6 wg. The blood pressure normalized and Tc count and hemoglobin were stable after delivery.

Conclusion: These two cases show that maternal and/or fetal outcomes in women with AA could be poor. Therefore, counseling before pregnancy is highly recommended and frequent interdisciplinary surveillance of these pregnancies is necessary. It is necessary to inform patients suffering from AA before pregnancy about the hazards. Further studies are required to evaluate whether obstetrical complications are triggered by a dysregulated immune response or superimposed organ failure in pregnancy.

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MATERNAL AND FETAL OUTCOME AFTER FUNDAL UTERINE PRESSURE IN SPONTANEOUS AND ASSISTED VAGINAL DELIVERIES

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Objective: To evaluate maternal and fetal outcome after fundal uterine pressure (FUP) in spontaneous and assisted vaginal deliveries.
Design: Retrospective cohort study.
Setting: University Hospital of Zürich, Switzerland.
Population: 9743 singleton term deliveries with cephalic presentation were analyzed from 2004-2013.

Methods: Spontaneous and assisted vaginal deliveries were analyzed separately with and without application of FUP in order to reduce possible selection bias due to the retrospective study design. Odds ratios were adjusted in a multivariate logistic regression analysis.
Main Outcome Measures: Maternal and fetal outcome after FUP in spontaneous and assisted vaginal deliveries.

Results: FUP was associated with a higher incidence of shoulder dystocia in both spontaneous (adj. OR 2.44 CI 95% 1.23-4.84) and assisted vaginal deliveries (adj. OR 6.88 CI 95% 3.50-13.53). Fetal acidosis (arterial umbilical pH<7.2) was seen more often after application of FUP in spontaneous vaginal deliveries (adj. OR 3.18 CI 95% 2.64-3.82) and assisted vaginal deliveries (adj. OR 1.59 CI 95% 1.17-2.16). The incidence of 5′-Apgar <7 (adj. OR 2.19 CI 95% 1.04-4.6) and 10′-Apgar < 7 (adj. OR 3.04 CI 95% 1.17-7.88) was also increased after application of FUP in spontaneous deliveries. A higher incidence of anal sphincter tears (adj. OR 46.25 CI 95% 11.78-181.6) in the FUP group of spontaneous deliveries was observed.

Conclusions: FUP is associated with increased occurrence of shoulder dystocia and fetal acidosis. In spontaneous deliveries, the risk for lower Apgar scores after 5 and 10 minutes and for anal sphincter tears is increased.

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PREGNANCY AND MYASTHENIA GRAVIS: A CASE REPORT

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Introduction: Myasthenia gravis (MG) is a chronic autoimmune disease, resulting from autoantibodies targeting the acetylcholine receptor of the neuromuscular junction, causing fluctuating weakness and fatigability of skeletal muscle. The worldwide prevalence is between 15 and 179 per million people. It most commonly occurs in women of reproductive age, thus demanding the obstetrician's attention. Our current knowledge on the management of MG during pregnancy is limited, being mainly comprised of case series and retrospective data.

Case: A 27-year-old, gravida 3, para 0 patient, with an unplanned pregnancy and an 8 year history of generalized seropositive MG. She is treated with anticholinesterase medication and azathioprine, with plasmapheresis every 10 days. These intervals were extended to 3 weeks during pregnancy, leading to admission for a myasthenic crisis in the first trimester. The usual treatment was resumed and the rest of the pregnancy was uneventful, with normal monthly ultrasound scans (US). After multidisciplinary review, planned elective caesarean section was performed at 38 weeks gestation. No complications occurred during delivery or the postpartum period, neither for the mother nor the child.

Discussion: The course of MG during pregnancy is unpredictable. A period of clinical stability (at least 1 year) prior to pregnancy is recommended. About 30% of pregnant patients will have an exacerbation of their symptoms, leading to critical conditions warranting close multidisciplinary antenatal care. Treatment should be individualized, depending on disease severity and possible teratogenic effects. Fetal muscle weakness, arising from maternal antibodies crossing the placenta, is monitored with frequent US. No consensus on frequency of US exists. Careful neonatal examination is essential, as 10 to 20% of infants develop transient neonatal MG. Maternal antibody titres and disease severity do not correlate with its occurrence. Furthermore, MG has been linked to an increased risk of premature rupture of membranes. Spontaneous vaginal delivery is preferred. Instrumented deliveries may be warranted due to muscle exhaustion arising in the second stage. Adequate pain control is advised during labour to reduce the risk of crisis. Regional anesthesia is favored, avoiding systemic drugs.

Conclusion: MG is an uncommon pathology in obstetric care. Good outcomes can be obtained, with individualized treatment and close multidisciplinary follow up.

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SPONTANEOUS CAROTID ARTERY DISSECTION IN PREGNANCY – A CASE REPORT

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Introduction: Spontaneous carotid artery dissection (CAD) is a rare condition with an incidence of 1.7-2.6/100'000. While only accounting for approximately 2% of all strokes, spontaneous dissections of the cervical arteries are the most common cause of ischemic strokes in young and middle-aged patients. Pregnancy may increase the risk of a CAD due to vascular remodeling increasing arterial diameter and compliance.

Case report: A 35-year-old 36-week pregnant woman (para 2) with a history of HELLP syndrome in her first pregnancy was seen in another hospital with arterial hypertension and headache. After exclusion of gestosis, she was dismissed with symptomatic therapy. The next day she returned for follow up with new onset Horner's syndrome with ptosis and miosis on the right side. There were still no laboratory changes typical for gestosis and she was referred to our primary care center.

Subsequent investigations with MR angiography without contrast due to pregnancy showed extensive right internal CAD with high grade stenosis and no ischemic lesions. The decision was made to deliver the baby before beginning the treatment recommended by our neurology colleagues. After an unproblematic caesarean section anticoagulation therapy with heparin perfusor was initiated. To manage pronounced hypertension a regimen of five antihypertensive agents needed to be established.

Two days later a re-laparotomy was necessary due to a progressive hematoma of the abdominal wall. The remaining hospital course was unremarkable and the patient was discharged with her baby 12 days after admission. To keep the blood pressure normotensive a double antihypertensive regimen was continued. The therapeutic anticoagulation was changed to dalteparin s.c. upon discharge and was changed to maintenance daily Aspirin 100mg p.o. after the control MRI one month later, which showed resolution of the right internal carotid artery stenosis with a small residual intramural hematoma in the area of the dissection. Neurologic symptoms were no longer present.

Conclusion: Headache in pregnancy is not always due to a gestosis. Clinicians should be aware of a CAD as a rare but severe cause of headache with neck pain and focal neurologic symptoms. When diagnosed, treatment has to be established rapidly in order to prevent ischemic lesions.

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REPEATED LOSS OF PREGNANCY IN A PATIENT WITH THROMBOPHILIA AND UMBILICAL CORD HYPERCOILING

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Introduction: Thrombophilia is associated with complications in pregnancy, such as pre-eclampsia/eclampsia, placental abruption, intrauterine growth retardation) and intrauterine fetal death (IUFD). The current data regarding the benefit of heparinization is insufficient as there are no placebo-controlled randomised studies. Studies on anticoagulation in women with thrombophilia and recurrent loss of pregnancy showed no benefit. We report the tragic case of a second IUFD in a pregnant woman with factor V Leiden mutation.

Case: A 30 y.o.j G lll P ll at 36 weeks and 6 days of gestation. Factor V Leiden mutation was discovered after an IUFD in 2011 at 37 weeks and 5 days of gestation. Intrauterine asphyxia caused by thrombi and hypercoiling of the umbilical cord were indicated as the cause of death on autopsy. Following a hematology consultation, thrombosis prophylaxis with heparin starting at 12 weeks of gestation was recommended for subsequent pregnancies.

In 2012 the woman became pregnant again. All pregnancy examinations were performed by a private gynecologist until the 37th week of gestation. . Heparin prophylaxis was started immediately following her first consultation at our hospital at 36 weeks of gestation. Two days later the patient went into preterm labor and delivered a healthy male infant without complications.

In 2014, the woman was pregnant again with her third child. Again, all pregnancy examinations had been performed by a private gynecologist and no thrombosis prophylaxis had been initiated. At her first consultation in our hospital at 36 weeks and 6 days gestation, all examinations including fetal heart rate monitoring,, prenatal ultrasound and Doppler ultrasound were unremarkable. Heparinization was started immediately.

The woman presented again the next day due to lack of fetal movement. Unfortunately, an IUFD was diagnosed. The autopsy indicated intrauterine asphyxia due to thrombi and hypercoiling of the umbilical cord as the cause of death.

Conclusion: Whether the thrombophilia, hypercoiling of the umbilical cord or of both caused the foetal death is not clear in this case. Furthermore, it is unclear whether an early thrombosis prophylaxis in the pregnancy could have prevented the IUFD.

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CAMPYLOBACTER JEJUNI AS A RARE CAUSE OF SEPTIC ABORTION: A CASE REPORT AND REVIEW OF THE LITERATURE

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Introduction: abortion occurs in approximately 8 to 20% of all pregnancies before 20 weeks of gestation. Whereas the causes of abortion differ as a function of gestational age, infections appear to be more frequent during the second trimester. They are more common in developing (50%) than in industrialized (13%) countries. Fetal infection can be acquired transplacentally or transcervically. We report here a rare case of documented chorioamnionitis due to Campylobacter jejuni.

Methods: a 17-year old Caucasian primipara of low social background was admitted at 16 weeks of gestation for severe abdominal pain associated to metrorrhagia without fever. The clinical examination showed a slightly opened cervix with moderate haemorrhage. A demised fetus corresponding to gestational age with anamnios was found at echography. The full blood count revealed a severe inflammatory syndrome (leukocytes: 26 G/l of which 37% of non segmented neutrophils; CRP: 162 mg/l).

Results: spontaneous fetal expulsion occurred shortly after admission. Campylobacter jejuni subspe jejuni was isolated in the placenta. However, a hematogenous origin could not be confirmed. The amoxicillin – clavulanic acid association initiated was switched to doxycyclin as soon as the causative agent was identified. Fetal expulsion and antimicrobial therapy allowed a rapid recovery of the patient.

Conclusion: the various Campylobacter species, especially jejuni, are well known causes of gastro-enteritis in humans, being a mostly self-limited disease. In some cases, they can induce long term complications such as Guillain-Barré neuropathy or Reiter syndrome. In pregnant or immunocompromised patients, clinical manifestations vary widely, possibly including signs of septicaemia. A review of the literature covering the last 30 years allowed 19 cases of abortion due to documented Campylobacter infection before 24 weeks to be identified. Irrespective to the subtype (jejuni or fetus, more rarely coli or upsaliensis), Campylobacter infections have also led to stillbirth or preterm labor with severe neonatal infection. Maternal death was also reported in one case.

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BARTTER SYNDROM - A RARE CAUSE OF POLYHYDRAMNIOS

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Introduction: The most common causes of severe polyhydramnios are fetal structural anomalies. Often they are associated with underlying genetic abnormalities. In less severe cases we see maternal diabetes or multiple gestation. Frequently polyhydramnios is of idiopathic origin. Although less common fetal infection, Bartter syndrome, anemia and neuromuscular disorders are other causes of polyhydramnios.

Bartter syndrome is an autosomal recessive disorder with a characteristic set of metabolic abnormalities including hypokalemia, metabolic alkalosis, hypochloremia, hyperreninemia, hyperaldosteronism, hyperplasia of the juxtaglomerular apparatus and normotension.

Case: We discuss the case of a 27 y/o G2P0 who presented at 24+0 weeks of gestation with premature contractions and polyhydramnios. The amnion fluid index was 27. Furthermore we found a single umbilical cord artery. No other fetal or maternal abnormalities were detected. TORCH serology was negative as well as the oral glucose tolerance test. Fetal karyotype was normal. Four weeks later there was a negativ a-wave in the ductus venosus in Doppler sonography. Additionally the CTG was pathologic. Therefore cesarean section was performed. The preterm was a girl, Apgar 5/7/8, ph 7.29, 7.31. Her birth weight of 950g was in the lower range of normal (P20). The neonatal course was remarkable for polyuria, hypotension, hyponatremia, hypokalemia and hypochloremic alkalosis. These findings suggested the diagnosis of Bartter syndrome I. Meanwhile the diagnosis has been confirmed genetically.

Conclusion: Although Bartter Syndrom is a rare disease it should be considered in differential diagnosis of polyhydramnios after structural abnormalities and maternal diabetes have been excluded.

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POTENTIAL OF BRYOPHYLLUM PINNATUM AS A DETRUSOR RELAXANT: DATA FROM A HUMAN EX VIVO MODEL

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Introduction: Overactive bladder (OAB) is a syndrome characterized by urinary urgency with or without incontinence which affects about 500'000 people in Switzerland. Detrusor hyperactivity is one of the major problems of OAB. Long-term adherence to standard medication with anticholinergic drugs is relatively low due to side-effects. A beta3-agonist with proven clinical benefits was registered in Switzerland in 2014, but only limited data on long-term efficacy and safety are currently available. Bryophyllum pinnatum (BP) is a botanical medication used traditionally in anthroposophic medicine. BP press juice (BPJ) contains high amounts of flavonoids, and low concentrations of potentially toxic bufadienolides. First promising clinical data on the use of BP in the management of OAB have been obtained in a randomized double-blinded placebo-controlled trial. BPJ and a flavonoid-enriched fraction (FF) obtained from a methanol extract of BP have been shown to inhibit porcine detrusor contractions in vitro. Aim of this study was to investigate the effects of BPJ and FF on human detrusor muscle.

Material and Methods: Human detrusor muscle strips (n=22) obtained from patients < 70 years-old and undergoing complete cystectomy because of non-neurological diseases (N=6) were used for the contractility experiments. Effects of FF (0.3-0.7 mg/ml), of BPJ (5 and 10 %) and of oxybutynin (0.1 and 1 micromolar) were investigated. Muscle contraction was induced by electric field stimulation (5 s, 40 V, 32 Hz). Results obtained with the different concentrations were comparable and were pooled.

Results: FF caused an initial increase of the contraction force, followed by a marked decrease (down to ca. 20% of initial after 70 min incubation; n=12, N=6). Oxybutynin led to a rapid and marked reduction of the contraction force (n=4, N=3). BPJ at concentrations of 5-10% also led to a quick and marked reduction of the contraction force (down to ca. 20% after ca. 30 min incubation; n=3, N=1). Time and vehicle controls revealed moderate force decreases (down to 80% of initial after 70 min; n=3, N=3). Some evidence for a concentration-dependency of the effects was obtained.

Conclusions: BPJ and FF inhibited human detrusor contractions in a time-dependent and consistent manner. Further investigations on the mechanism of action, clinical efficacy and pharmacokinetics are needed.

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MIMICKING AN OVARIAN TUMOR: THE RETROPERITONEAL SCHWANNOMA

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Introduction: We report two cases of postmenopausal women with sonographically suspicious ovaries and consecutive further surgical exploration. Both cases show the importance of retroperitoneal tumors as a differential diagnosis in sonographic ovarian masses.

Methods: Within a short period of time two postmenopausal women - free of complaints - presented themselves at our outpatient clinic for a regularly Gynecological check-up. Sonographically they showed suspicious ovaries which were cystic enlarged with semi-malignant characteristics. We decided in both patients to perform laparoscopy. Surprisingly both operations showed absolutely inconspicuous internal genitalia. One patient however presented a large retroperitoneal mass on the promontory, the other showed a tumour deep in the right obturatorian fossa. In both situations these retroperitoneal tumor masses were completely resected.

Results: The further histological examination revealed in both patients a cystic degenerative schwannoma/neurinoma of the peritoneum, the so-called pseudo-glandular type with secondary regressive changes (ancient schwannoma). In both cases no malignancy or signs of atypia were found. The resection was in toto, therefore no additional treatment was necessary.

Conclusion: The incidence of schwannoma reaches approximately 1 / 100'000, only 0.3-5% of all schwannoma are retroperitoneal. By contrast up to 10% of all retroperitoneal tumours are schwannoma's. Schwannoma's are mostly benigne and are treated by resection. Even after incomplete resection recurrence is very uncommon. Less than 1% can become malignant, degenerating into a form of cancer known as neurofibrosarcoma. However malignancies have to be ruled out as a possible reason for the retroperitoneal mass, hereunder especially metastases and lymphomas. Another rare but important differential diagnosis is a lesion in context of the hereditary tumor syndrome neurofibromatosis. We conclude that any suspicious ovarian mass found in ultrasound needs further (surgical) investigation. Deviant intraoperative results should let you think of a retroperitoneal lesion and we advise to search actively for it. Especially Schwannoma's are not uncommonly the reason of a retroperitoneal mass and can only be fully treated by complete resection.

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EFFECT OF THE ANTIOXIDANT POLYPHENOL COMPOUND G89 ON SPERM QUALITY

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Introduction: Overproduction of reactive oxygen species (ROS) may negatively affect sperm function. Polyphenols are known to have antioxidant effects by reducing ROS. For example in pigs, a diet with the polyphenol lignin resulted in an increased sperm quality compared to diet without it. The purpose of this prospective study was to assess the effect of the antioxidant polyphenol compound G89 extracted from lignin on sperms of patients attending our infertility unit.

Material and method: From 03/2014 until 07/2014 semen specimens were obtained from 26 patients attending our unit for fertility evaluation. All patients were asked for 3-5 days of sexual abstinence. We compared two different concentrations of G89 and a buffer solution on sperm motility. Three test series were performed. In experiment 1 200ul native sample was added to 0.001g G89 in 5ml GMOPS+, in experiment 2 200ul native sample was added to 0.01g G89 in 5ml GMOPS+ and in experiment 3 200ul native sample was added to 5 ml GMOPS+ as a reference value. The evaluation of sperm motility was performed by one observer according to World Health Organization (WHO) 2010 criteria.

Results: Toxicology tests with G89 in mice showed no toxicity.
In comparison to the reference, G89 in a concentration of 0,001g per 5 ml reduces the progressive sperm motility by -2% and the non-progressive category by -1% after 24 hours. A concentration of 0,01g G89 per 5 ml resulted in a loss of 9% in the progressive category and -7% in the non-progressive category after 24 hours.
Morphology was not affected.

Conclusion: The experiment showed that oxifenol added to semen has a negative impact on sperm motility, regardless of a high or low concentration. Oxifenol used in a high concentration has an even worse effect.

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BULKAMID® FOR MIXED URINARY INCONTINENCE: A PROSPECTIVE ANALYSIS OF 122 WOMEN

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Introduction: Mixed urinary incontinence (MUI) as mixture of stress urinary incontinence and overactive bladder (OAB) is a difficult entity if conservative treatment has failed. Particularly the OAB component may deteriorate after sling insertion possibly requiring sling removal and further therapies. Small case studies have shown the beneficial use of bulking agents in mixed urinary incontinence although larger series are lacking.
Aim of this prospective study was to analyze the efficacy of bulking agents in female patients with MUI.

Methods: 122 women with MUI were treated by bulking therapy with polyacrylamide hydrogel (Bulkamid®). To be included in the study, the components of stress urinary incontinence and OAB had to be within the limits of 60%-40% either way to avoid predominance of one aspect. Primary outcome was the domain "incontinence impact" of the King's Health Questionnaire (KHQ), secondary outcomes were the other domains of the KHQ, visual analogue scale (VAS), ICS standardized PAD test as objective measurement of incontinence and maximum urethral closure pressure as determined by multichannel urodynamics. Subjective and objective outcomes were measured before and three months after intervention. For statistical analysis and test of normality, Graph Pad Prism was used. The local ethical committee approved this study (KEK 127/2009).

Results: Statistically significant improvements were found for the domains, incontinence Impact, general health, role Limitations, pad weight test and VAS before and after bulking. Subjective assessment showed improvements in physical and personal limitations as well as in emotions and sleep. The overall complication rate was less than 3% including urinary tract infections (n=2) and temporary retention<48 hours (n=1).

Conclusions: This study shows improvement in MUI after bulking therapy according to subjective and objective outcome. We can advocate bulking therapy for treating MUI, as it is simple, safe, and shows both objective and subjective improvement and relief.

Long term results are to be awaited.

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NEXT-GENERATION SEQUENCING IS AN USEFUL TOOL TO DIFFERENTIATE BETWEEN SYNCHRONOUS ENDOMETRIAL AND OVARIAN CANCER OR METASTASIS

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Introduction: Despite the common use of next-generation sequencing in preclinical research and thus a chance of identifying potential therapeutic targets, current treatment of metastatic endometrial and ovarian cancer is still mainly based on conventional chemotherapy combination regimens. Next-generation sequencing may also help to differentiate between synchronous primary tumors and metastasis as shown here.

Material and Methods: We performed targeted next-generation sequencing with the Ion Torrent platform in primary tumor- and metastasis-samples of a patient with synchronous endometrioid endometrial and endometrioid ovarian cancer, who developed a lung metastasis during follow up. The patient underwent thoracoscopic resection of the single lung metastasis. Histology showed a metastasis of an endometrioid adenocarcinoma. Since then the patient is under megestrol and in complete response for more than 7 years.

Results: A total of 409 genes from the Ampliseq comprehensive cancer panel were deep sequenced and among others, mutations in ARID1A, CTNNB1, PIK3CA and PTEN were identified and confirmed by Sanger sequencing. As described previously in endometrial and endometrioid ovarian carcinomas, ARID1A mutations were concomitant with mutations of PIK3CA and PTEN, both members of the PI3K/AKT-pathway. Primary endometrial as well as ovarian cancer showed identical mutational profile suggesting the presence of an ovarian metastasis of the endometrial cancer, rather than a synchronous endometrial and ovarian cancer. The mutational profile of the metachronous lung metastasis showed a different mutational profile compared to the primary cancer.

Conclusion: Our results demonstrate that next generation sequencing is an useful tool in the differentiation of synchronous primary tumors and metastasis, which has an important impact in clinical decision making. Furthermore targeted therapies based on mutational tumor characterization may get of increasing importance in endometrial and ovarian cancer, similar as this is the case in breast cancer. Together, our results corroborate the usage of next-generation sequencing as a supplementary tool for therapeutic decisions which may especially get of increasing importance with the availability of new targeted therapies.

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MAST CELL INFILTRATES IN VULVODYNIA REPRESENT SECONDARY AND IDIOPATHIC MAST CELL HYPERPLASIAS

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Introduction: Vulvodynia is a complex pain disorder with generalized, localized, unprovoked and provoked subtypes, which are diagnosed after exclusion of specific vulvar diseases associated with pain. Histological findings on HE-stained sections of vulvar biopsies of vulvodynia patients are non-characteristic, but mast cell infiltrates in biopsies of vulvodynia are common. These tissue mast cell infiltrates have not been characterized for criteria of neoplastic mast cell disease sofar or correlated with patient's concomitant diseases associated with increased mast cells.

Methods: Formalin-fixed specimens of 35 patients with vulvodynia were evaluated. Initial evaluation was on HE-stained section, but optimal demonstration of mast cells requires special stains. Immunohistochemical analysis of the lymphatic infiltrate was performed with antibodies to CD 3,4,8,20, and of mast cells with antibody to human mast cell tryptase. Furthermore, WHO-criteria of neoplastic mastocytosis (>25% spindled mast cell, CD25 expression, point mutations of the c-kit gene (D816V), and chronically elevated serum tryptase levels) were evaluated. Clinical history and concomitant diseases were correlated with mast cell infiltrates and patients were divided into primary, secondary and idiopathic mast cell disease categories.

Results: Only 20/35 specimens showed a T-lymphocyte dominant inflammatory infiltrate on HE-stained sections, but all showed mast cells. 4/35 biopsies showed <10 mast cells/mm2, 15/35 specimens 40-60 mast cells/mm2 and 16/35 specimens >60 mast cells/mm2 (average 80/mm2). Control tissues contained typically <10 mast cells/mm2. Spindling, CD25-expression, c-kit gene mutations, or increased serum tryptase levels were not detected. 26/35 (74%) patients had concomitant autoimmune diseases, psoriasis, atopy, various allergies (house dust mites > animal hair > penicillin > seasonal > food), histamine intolerance, fibromyalgia and preceding infections (HPV and candida).

Conclusions: All mast cell infiltrates were benign. Independent of the subtype of vulvodynia, the majority of vulvodynia patients (75%) with mast cell rich biopsies were classified as a secondary mast cell disorder reflecting an activated immune system due to concomitant diseases. In 25% of vulvodynia patients no concomitant diseases or reasons for mast cell infiltrates were found. Patients with increased mast cells may benefit from medical therapy targeting mast cells or life style modifications affecting mast cell degranulation.

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A PELVIC MASS: INFECTION OR TUMOR? DIFFERENTIALDIAGNOSIS USING HISTOLOGICAL FINDINGS. A CASE REPORT

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A 52 year old woman was referred with a lower abdominal pain and a progressive pelvic organ prolapse (POP) Stage 3 (ICS-POPQ-Staging). She had three vaginal births and used a copper-intrauterine device (IUD). After discussing various methods of treatment with the patient, she decided on an operative treatment. Until then, a therapeutic pessary was recommended. Although this pain was initially interpreted as a symptom of the POP, there was no relief through the therapeutic pessary. She was re-referred for immediate operative therapy. Preoperative blood tests showed an anaemia (Heamoglobin 78g/l), high CRP-values and a leucocytosis (CRP 200mg/l, WBC 18000). Ultrasound findings showed an enlarged uterus (93mm) and a cyst (50mm) in the left adnexa loge. Former ultrasound findings were normal. Results of a CT-Scan confirmed an inhomogeneous, highly contrasted uterus, a multi-cystic, solid mass in the lesser pelvis and hydronephrosis Grade II-III on both sides. These lead to a strong suspicion of an ovarian carcinoma. An external Pap-smear carried out earlier in the year showed Pap II and Actinomyces-like bacteria. As a probable cause of the persistent pain and the pelvic mass an infectious origin was postulated and an IV antibiotic therapy (Amoxicillin/Clavulinacid) was administered. Unclear findings of body-images lead to an explorative laparoscopy with perioperative insertion of a double-J-Catheter. Massive Adhesions in the abdomen caused a conversion to laparotomy. The pelvic mass behaved like a malignant tumor invading the surrounding and caused necrosis, thus a hysterectomy, a bilateral adnexectomy and an intraoperative frozen section was carried out. The result of the frozen section showed a florid Infection of the tissue with typical glands for an actinomycosis. No malignant cells were found. Post-operative the abdominal pain disappeared. In accordance to the bacterial sensitivity a sole therapy with Penicillin was administered. A control-CT scan showed no pathological findings or ruminants of the actinomycosis. Pelvic actinomycosis associated with the use of IUDs can mimic pelvic malignancy similar to this case report. A high index of suspicion is required as a differential diagnosis with intrauterine device that present with constitutional or nonspecific abdominal symptoms and an abdominal mass. Laboratory abnormalities may show anaemia and leucocytosis. Unfortunately many patients undergo resection before the diagnosis has been established.

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LIFE THREATENING CONDITION– UTERINE ARTERIOVENOUS MALFORMATION AFTER A CAESAREAN SCAR PREGNANCY

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Introduction: Caesarean scar pregnancy is a rare and potentially life-threatening issue of ectopic pregnancies, which is getting increasingly important due to a rising number of Caesarean sections. Most cases are treated with methotrexate whilst observing the serum beta–human chorionic gonadotropin (HCG) level. However, vaginal bleedings might be a problem during and sometimes even after a terminated therapy. These mass bleedings may sometimes be treated by hysterectomy only.

Material and methods: We present two cases with newly identified prominent uteroplacental neovascularized mass that occurred after different treatment schemes caesarean scar pregnancies with finally normal values of beta HCG. Both cases were treated in 2014 in our department.

Results: The first patient had a history of two caesarean sections in the past. 13 week scan showed a caesarean scar pregnancy. The patient underwent intraamniotic KCL injection and received methotrexate. The HCG-level was back to normal after 124 days. However, a few weeks later the patient was admitted to the Gynecology service presenting with vaginal bleeding. Ultrasound and MRI showed an eight cm prominent neovascularized mass located at the front wall of the uterus with arteriovenous shunt-like structures. After an unsuccessful first trial of uterine arterial embolization that had to be stopped due to systemic side effects, the patient chose laparoscopic hysterectomy.
The second patient was referred to our hospital ten weeks after a D&C for caesarean scar pregnancy at seven weeks of gestation. Ultrasound confirmed an absent fetal heart beat and a prominent mass of six cm width within the uterus. MRI angiography confirmed the distinct vascularization of the mass. Beta HCG value was normal. As the patient intended to preserve her fertility we opted for the excision of the caesarean delivery scar implantation applying wedge resection after a temporary clipping of the uterine and ovarian arteries.

Conclusion: Caesarean scar pregnancies may cause significant vaginal blood loss -regardless of the chosen therapy. The decrease of Beta HCG is not a sufficient unique marker to determine regression of the mass and must not be used as single indicator of success. Patients from caesarean scar pregnancies are in need of a tight follow-up with regular ultrasounds. Even with a normalized HCG level persisting uteroplacental masses may cause life threatening bleedings that require immediate intervention.

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DETECTION OF MICROSCOPIC PERITONEAL SPREAD IN GYNECOLOGICAL CANCERS USING DIAPHRAGMATIC SCRAPINGS ADDS NO BENEFIT TO STANDARD STAGING PROCEDURES

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Introduction: Routine measures in abdominal staging of gynecological malignancies are peritoneal biopsies (PB), lymph node sampling and peritoneal washings (PW). Cytological diaphragmatic smears (DS), however, although suggested as a supplemental tool, are not routinely taken. There is hardly any data comparing these specific techniques in terms of sensitivity or specificity. The aim of this retrospective study was to evaluate the additional diagnostic benefit of DS compared to PW and PB in gynecological cancers.

Material and Methods: We retrospectively studied 43 patients where a laparotomy for suspected gynecological cancer was performed and DS taken, together with either PB, PW or ascites asservation. The DS samples were obtained always by the same surgeon using a cervical cytobrush.

Results: Out of 43 cases, 4 need to be excluded due to a benign diagnosis (9.3%), none with positive DS or PW. 2 Patients had 2 carcinomas simultaneously, thus resulting in 41 carcinomas. DS were positive in 11 of 41 (28.2%) malignant cases, independent on the side taken. Of those, only one case was positive in an early stage, 2 were positive in an advanced stage. In the whole cohort, we found 18 positive cases of PW (46.2%) and 19 cases of positive PB (48.7%). When deducting hereby cases with ascites, thus supposedly excluding advanced disease, positive DS where only found in 5 of 29 cases, 9 in PW and 10 in PB. However, 3 of the 12 cases with ascites had an early stage (25%). In 7 of 40 cases DS was negativ when the corresponding PW was positive (17.5%). In 10 of 39 cases, DS and PB did not correlate (25.6%), 1 case being positive in DS and negativ in PB, and 9 cases vice versa. The positive DS, however, had correlating positive PW. Slightly better correlation was found between PW and PB (79.5%).

Conclusion: None of our cases discovered peritoneal disease or was upstaged solely based upon positive diaphragmatic smear. Hence, this technique is of no benefit additionally to peritoneal washings and peritoneal biopsies.

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WHAT CAN WE EXPECT FROM PREOPERATIVE MRI FOR BREAST CANCER PATIENTS?

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Background and Objective: Preoperative MRI for breast cancer patients remain a controversy subject over many years. Yet the most of the studies that addressed this questions looked for the role of MRI on surgical outcome, such as re-excision und mastectomy rate and showed no benefit for additional MRI. In our patients population we looked if MRI would detect additional tumors that would otherwise stay undiagnosed.

Materials and Methods: Breast imaging and pathology data from all patients seen in our multidisciplinary breast cancer clinic from January 2012 to December 2014 were retrospectively reviewed.

Results: Out of 314 patients diagnosed with breast cancer in 2012-2014 120 have received an additional preoperative breast-MRI. The main indication for MRI was ACR type 3-4 in 28%(34) and/or an additional unclear finding in mammography or sonographie 34% (41) and lobular-type of the histology 13% (16). In 45 cases (37,5%) an additional suspicious lesion was diagnosed by MRI (30 ipsilateral, 9 contralateral and 6 contralateral and ipsilateral) and in 40 cases a biopsy was performed. In 15 cases the additional biopsy showed a benign histology and in 29 cases additional cancer was diagnosed (26 ipsilateral (as multicentric cancer) and 3 contralateral).

Conclusion: In our patients collective preoperative MRI helped to diagnose additional both contralateral and ipsilateral cancer with relative high percentage of multicentric carcinomas that would otherwise stay undiagnosed. This shows, that preoperative breast MRI can bring an important additional information that could decrease recurrence rates. An optimized patients selection for preoperative MRI will help to increase the efficiency of this imaging modality.

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MORPHOLOGICAL RISK FACTORS FOR RECURRENCE IN LOW RISK ENDOMETRIAL CANCER

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Objective: The prognosis in early stage, low-risk endometrial cancer is excellent, but in the case of recurrence the prognosis is poor. Morphological risk factors have been evaluated but are rarely used in everyday clinical practice or guidelines. Microcystic elongated and fragmented (MELF) is known to be a risk factor for prognosis; in addition lymphovascular space involvement (LVSI) is a predictor for lymph node metastasis. In this study, the presence of morphological risk factors was examined in a collective of patients diagnosed with low-risk endometrial cancer whose cancer recurred; this collective was compared with a control group.

Patients and methods: The 2002-2014 internal database of a tertiary referral center was searched for recurrence in initially low-risk endometrial cancer. Out of a total of 405 patients with endometrial cancer, 25 patients with recurrent cancer that fit the criteria of low-risk cancer were identified. In the recurrent group five patients had to be excluded because of revision of the histology and the grading (N=3) or missing tissue (N=2). The groups are comparable concerning age and BMI.

Results: A statistical analysis was performed with chi-square comparing the different parameters. No significant correlation between myometrial invasion, MELF, WHO Grading, lower uterine segment invasion and papillary structure was seen. However a correlation between vascular invasion V1 and MELF and could be identified (p=0,16). Furthermore patients having MELF >70% all had vascular invasion.

Conclusions: In patients with low-risk endometrial cancer, the presence of MELF >70% predicts vascular invasion, which appears be a risk for recurrence and is known to be a risk factor for lymphatic spread.

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IDENTIFYING BARRIERS TO REPRODUCTIVE HEALTH SERVICES AMONG MIGRANT WOMEN IN GENEVA

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Introduction: Reproductive health (RH) disparities have been described between migrants and the Swiss population. The study COMIRES (community-based migrant research) explores barriers to RH services among migrant women and describes the role of the community using community- based participatory research (CBPR). CBPR has been described as well suited to address inequalities in health by involving community members and researchers in the research process.

Methods: The CBPR partnership of each community reviewed the research documents and recruited women to participate in focus groups (FGs) consisting of 4-10 participants. Audio-recorded FGs were transcribed, translated into French, then coded and analyzed using the atlas.ti software.

Results: Until January 2015, 9 FGs within 4 communities including 54 women from 18 nationalities (age range: 22-66 years) were conducted, including women with legal and undocumented status.

According to a preliminary analysis, the technical quality of health care was judged as very good. However, interpersonal skills provided by the health professionals were rated differently. Women from unstable countries with weak health systems rated them in general more positively than participants from countries with good health systems. Identified barriers included among others a low transcultural awareness of the health service providers (e.g. in the evaluation of pain or in areas such as female genital mutilation), long perceived waiting times for appointments and high costs of the health care system. Contrary to previous publications language barriers were only mentioned in 2/3 of FGs as a barrier.

The role of the community was evaluated differently depending on woman's nationality: while women e.g. from Latin America mentioned the community as an important resource for information, women from Eritrea felt that the community was little helpful and described even a lack of trust. In general few communities were actively involved in assisting with RH related questions.

Conclusion: CBPR with migrant communities has the potential to understand better barriers to RH services for migrant women, to facilitate the dialogue between health care providers and migrants and to suggest solutions for a better access to RH services.

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ANTI-GLYCAN ANTIBODIES IN HUMAN MILK MIGHT INDICATE A POPULATION-BASED RISK FOR BREAST CANCER

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Introduction: Human milk is a rich source of proteins, lipids, carbohydrates and minerals, having developmental and immunological significance. The protective properties are attributed to immunoglobulins, proteins, oligosaccharides, glycoproteins and glycolipids which can bind pathogens, thus contributing to their clearance. Interestingly, three countries worldwide have the lowest incidence in colon and breast cancer and the highest rate in breastfeeding: Mongolia, Bolivia and Central Africa.

Material and Methods: The aim of this study is to profile anti-glycan antibody (AGA) binding in human milk to 22 different glycans using suspension glycan array. We aim to examine individual profiles, their time-dependent changes due to duration of nursing and the mother's diet. Importantly, we want to investigate any population-specific effects in a small pilot cohort of Mongolian and Swiss mothers (n=9).

Results: AGA to all of the 22 tested glycans can be detected in at least one of the human milk samples. When the overall binding of AGA was compared in the two ethnical groups, a significant decrease in the Mongolian group was detected (p=0.0008). Hereby, significant discrimination was found in binding to the following glycans; a) Lewis antigens (sLea, sLex, Ley), gynecological and colon cancer-associated; b) GM2 and GD3, associated with breast and other cancers; c) Globo H (breast cancer associated); and d) Neu5Gc-(glycolylneuraminic acid)-containing glycans. Interestingly, Neu5Gc, consumed with red meat, which has been proposed in colon carcinogenesis, can be incorporated into cell surface glycans replacing native Neu5Ac and is thus immunogenic, giving rise to circulating antibodies and contributing to inflammation and cancer.

Conclusion: AGA from human milk might play various important roles, mediating and regulating immune processes in infants. At the same time this repertoire might create a health predisposition to various cancers including breast cancer.

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ADENOSARCOMA OF THE CERVIX IN A PREMENARCHAL GIRL: A CASE REPORT AND REVIEW OF THE LITERATURE

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Introduction: In childhood or adolescence the adenosarcoma (AS) is extremely rare. It was first described in 1974 by Clement and Scully as a variant of mixed Müllerian tumor, composed of a benign epithelial component and a (low-grade) malignant stromal component. AS is usually of endometrial origin, however extrauterine AS are also reported in the literature. In generally patients with extrauterine AS are younger than those with uterine AS. It's mentioned that about 10 percent of AS occur even as early as a second decade of life. The youngest female diagnosed with AS who is reported in literature is also a 10-year- old girl.

Case Report: A 10-year-old girl was sent 2011 with a mass, initially protruding from her vagina, repositioned by the family doctor. She suffered from increased vaginal discharge. The physical examination was inconspicuous with negative cervical smear. Sonografically the suspicion of Bartholin's cyst or Gartner's duct cyst was made and a short-term follow-up was organized. Due to a family inconvenience there was a follow-up not until 12 months. Unfortunately a polypoid protrusion of tissue through the hymen was discovered. Sonografically and by MRT a cystic heterogenous mass in the vagina was detected, suggestive for a rhabdomyosarcoma. A biopsy of this tumor revealed a stromal tumor of the female genital tract. A diagnostic laparoscopy and a hysteroscopy with resection of the tumor mass were indicated. Histologically the diagnosis of adenosarcoma originating from the endocervix was confirmed. To date the girl is free of disease with no adjuvant therapy at three years of short-term follow-up.

Conclusion: AS are considered to have a favorable prognosis with a five-year survival about 80 percent and with little propensity for nodal or distant metastases. But the recurrence rate is estimated at 26-30 percent, even higher after fertility-conserving surgical therapy. Due to this high recurrence rate we follow our patient every three to six months. If the sarcomatous component constitutes more than 25 percent of the tumor the definition of AS with sarcomatous overgrowth is given, which is a predictor of a worse prognosis. To date there's no evidence that adjuvant therapy might have a positive effect on overall survival rate. However some authors suggested that in high-risk patients an adjuvant radiatio could reduce local recurrence risk. The most common differential diagnosis of soft tissue sarcoma in childhood is the embryonal rhabdomyosarcoma.

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PASH – MASTER OF MIMICRY

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Introduction: If there is a patient presenting with progressive asymmetric enlargement of the breast, would you think it could be PASH?

Case report: A previously healthy 32-year-old female presented with a unilateral progressive painful breast enlargement on the right side, which had slowly developed over the past few years. 2008 an open biopsy had been performed because of an increasing mass in the right breast. Histology showed Fibrosis, Adenosclerosis and Cysts. The patient had given birth to 4 children (2005 – 2014) - with breastfeeding never being a problem. Physical examination revealed unilateral macromastia (E- vs. C-Cup), with a voluminous soft and mobile mass in the inner quarters of the right breast. Sonographic study showed a hypoechogenous mass with clear margins and augmented perfusion, BIRADS III. A breast magnetic resonance imaging (MRI) demonstrated a big mass (11x10cm) with partial inhomogenous diffusion (Göttingen-Score 1), MRM BIRADS IV. Sonography-guided biopsy showed breast tissue with fibrosis and PASH. Due to disease progression and pain, decision was made to perform an open excision of the palpable mass with pivoting flap (compound: 385g). Final pathology confirmed adenosclerosis associated with PASH, R0.

Conclusion: PASH is a benign breast lesion, commonly encountered as an incidental microscopic finding, characterized by stromal proliferation and presence of anastomosing slit-like spaces lined by bland spindle cells stimulating blood vessels. Well over 100 cases of so-called tumorous PASH are described in literature, which can present as a mass-forming lesion, capable of recurrence after surgical excision in 15-22%. Only few lesions over 10 cm have been reported, the largest 23 cm in a 48-year-old woman. There is no increased risk of subsequent breast cancer. Nevertheless, complete excision is recommended in symptomatic, progressive or radiological suspicous lesions.

In our case, the differential diagnoses, based on clinical presentation and imaging, were galactocele, hamartom, phylloides and low-grade angiosarcoma.

So don`t forget to think of PASH, especially when there is a recurrence of a progressive breast tumor. Complete excision of the tumor is indispensable to minimize the risk of recurrence.

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EXTRACORPOREAL SHOCK WAVE THERAPY IN THE TREATMENT OF REFRACTORY VULVODYNIA: A CASE REPORT SERIES

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Introduction: Vulvodynia is a common pain syndrome. Multiple treatments have been introduced but no standard therapy for vulvodynia has been implemented. In various medical fields Extracorporeal Shock Wave Therapy (ESWT) has proven effective in the treatment of chronic pain disorders. This report is an approach to evaluate the use of low-intensity extracorporeal shock wave therapy (ESWT) in the treatment of refractory vulvodynia.

Material and Methods: Four patients completed six ESWT sessions as scheduled in the protocol. The applied energy (Joule) was recorded for each session. Before each session the participants answered a symptom questionnaire evaluating the severity of different symptoms of vulvodynia on a visual analogue scale.

Results: In all patients we can report a reduction of symptoms after six weeks of ESWT. Furthermore, each patient's predominant symptom of vulvodynia decreased the most.

Conclusion: This is the first pilot study to report the use of ESWT for the treatment of refractory vulvodynia. We demonstrated that ESWT is a safe and effective therapy for vulvodynia. ESWT has the potential to be part of a multimodal treatment strategy in pati-ents with refractory vulvodynia. Prospective placebo-controlled trials are needed to confirm this strategy.

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YOUNG CANCER PATIENTS' NEEDS CONCERNING FERTILITY PRESERVATION – RESULTS FROM A QUALITATIVE STUDY

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Introduction: Young female cancer patients have not only to deal with a cancer diagnosis, but also with a possible loss of their fertility as a consequence of the cancer treatment. The present study concerned fertility preservation for women who have experienced cancer during their reproductive lifespan. The objectives were to complement the information previously gained by an online survey and to get a deeper insight in (1) the significance that fertility has for these patients, (2) their attitude towards fertility preservation (FP), (3) their decisional conflict associated with consideration to opt for FP and (4) their specific needs and the helpfulness they attributed to various sources of support.

Material & Methods: As part of a research project combining a quantitative (online survey) with a qualitative approach four focus groups were held with a total of 12 participants, who had a cancer treatment that impaired their fertility within the preceding decade. The focus groups were moderated by a clinical psychologist. The discussion was audio- and videotaped, data were transcribed and imported to the program MAXQDA. The results of the computer-based analysis were merged according to Mayring's methodological rules of qualitative content analysis.

Results: The significance of fertility was very high amongst participants and their attitude towards fertility preservation was mainly positive. Religious and ethical reservations were considerable in the decision-making process. As helpful instruments, checklists and standardized decision-aids were mentioned.

Conclusion: The conducted focus groups allowed a deeper insight in the needs of young cancer patients concerning their fertility. Qualitative data support the findings from the online survey that female cancer patients wish for more comprehensive and standardized support. Hence, the aim of an ongoing follow-up project is to develop and evaluate a standardized decision-aid tool for young female cancer patients.

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PREGNANCY FOUR YEARS AFTER HYSTERECTOMY

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Background: Ectopic pregnancy after hysterectomy is a rarity. In the majority of cases the extrauterine pregnancy already exists at the time of hysterectomy. Only 32 cases of late ectopic pregnancies have been described since the year 1895. Most of them occurred after vaginal hysterectomy and after emergency postpartum hysterectomy. Four cases of ectopic pregnancy after elective abdominal hysterectomy have been reported until now.

Case presentation: A 41-year-old woman consulted her family practitioner with lower abdominal pain and moderate anemia. Four years ago an abdominal hysterectomy without salpingo-oophorectomy had been performed because of menometrorrhagia. There were no postoperative complications.

Computer tomography detected a hypodense mass (4,0x2,5x2,5cm) cranial of the vaginal cuff in proximity to thick ovarian veins to the left, as well as another denser mass (5,5x4x5cm) localized between vaginal cuff and rectum.

The patient was referred to us for a Gynecological evaluation. There were no findings on clinical examination: no tenderness on palpation or abdominal defense, a mobile vagina and no palpable resistance.

The ultrasound scan showed a pregnancy of 8 weeks and 6 days (CRL 21mm). A fetal heartbeat was not detectable. Positive serum beta HCG of 11'208 IU/l confirmed the diagnosis of ectopic pregnancy.

We performed a laparoscopy and found massive adhesions. The left fallopian tube was livid, swollen and adherent to the left pelvic wall. In an attempt to perform a laparoscopic salpingectomy, the tube ruptured. Because of heavy bleeding and frozen pelvis laparotomy was indicated.

Postoperative Serum beta HCG adequately fell to 1422 IU/l on the first day. The diagnosis of ectopic pregnancy was confirmed histologically.

Conclusion: A hysterectomy does not exclude an extrauterine gravidity. The risk of getting pregnant due to prolapsed fallopian tubes or vaginal-tubal or vaginal-peritoneal fistula is extremely rare, especially after abdominal hysterectomy. However, it is important to consider the possibility of pregnancy after hysterectomy in women of childbearing age. A delay in diagnosis is associated with a high risk of rupture and mortality.

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AGRANULOCYTOSIS IN A YOUNG PATIENT FOLLOWING LAPAROSCOPIC SURGERY

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Introduction: Agranulocytosis is rare and in general defined by a reduction in neutrophils below 0.5 x 1 000 000 000/l. It manifests with a severe sore throat, oral ulcerations, with or without high fever or septicaemia. Known causes are haematological diseases, chemotherapy, infections, and drug-induced, e.g. anti-thyroid drugs, antibiotics, analgesics (diclofenac, metamizole) and psychotropic drugs. Cumulative data estimated the overall non-chemotherapy drug associated incidence of agranulocytosis to be 1.6-15.4 cases/million inhabitants/ year.

Material and Methods: We report on a 26-year old female patient, cannabis user, who was re-admitted one week after laparoscopic ovarian cystectomy for a mucinous cystadenoma with fever (39.8 °C). The clinical examination showed oral ulcerations and swollen nuchal lymph nodes. Blood analyses showed mild anaemia, increased C-reactive protein, a reduced leucocyte count (1.66 x 1 000 000 000/l) and absence of neutrophils (0.000 X 1 000 000 000/l) - therefore acute agranulocytosis was diagnosed.

Results: Negative serologies for HIV, CMV and EBV excluded an infection. We found no data suggesting an increased risk of agranulocytosis after operative procedures or in patients consuming cannabis. However, after laparoscopy our patient was treated with paracetamol (4 g daily) and ibuprofen (180 mg daily) for pain control, in addition she got two times metamizole (2 x 1g). After intake of metamizole, a median duration of two days until onset of acute agranulocytosis and a median of 10 days from onset of agranulocytosis to normalization of neutrophil count has been reported. This corresponds very well with our patient's history: a rapid onset of agranulocytosis within seven days and a fast recovery after cessation of metamizole. Co-medication included the pre-emptive use of antibiotics and granulocyte stimulating factors.

Conclusion: Agranulocytosis is a potentially lethal adverse event of a variety of commonly prescribed drugs including analgesics. In patients presenting with fever and agranulocytosis-like symptoms a thoroughly exploration of the drug history and a blood count is advisable.

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ELEVATED CA-125 IN CARDIOGENIC ASCITES: A DIAGNOSTIC PITFALL

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Introduction: The carbohydrate antigen 125 (CA-125) is a glycoprotein expressed in mesothelial cells of: the pleura, pericardium, peritoneum, cells of Mullerian origin and by a large proportion of ovarian epithelial tumour cells. Therefore, CA-125 has traditionally been considered a biomarker of ovarian cancer commonly used for monitoring its treatment. Other malignant conditions like uterine, pancreatic, gastric and colorectal cancer are also associated with elevated serum values of CA-125. In addition CA-125 can be linked to benign lesions and chronic processes, like ovarian tumours, leiomyoma, pregnancy, menstruation and endometriosis, pelvic inflammatory disease, ascites from liver disease, renal failure, diverticulosis, pleural and pericardial disease and pancreatitis. Recent reports show increased values of CA-125 in patients with congestive heart failure (CHF). Thus, CA-125 could be used as a biomarker to identify early stages of CHF as well as a useful tool in the clinical progression of CHF.

Case description: A 36-year-old female with cardiomyopathy of unknown origin, constrictive pericarditis with predominantly right sided heart failure (NYHA II-III) and chronic atrial fibrillation reported amenorrhea of 6 months. The Gynecological exam with her hormonal status were normal. On trans-vaginal ultrasound the uterus and ovaries appeared normal. A moderate quantity of approximately 300 mL of free fluid was noticed. CA-125 levels were 165 U/ml. The aetiology of this finding was unclear as her cardiac condition was stable. CA-125 rose to 324.8 U/mL and 506.3 U/mL, one and three months later, respectively, coupled with an unchanged clinical status. A paracentesis excluded the presence of malignant cells. A thoraco-abdominal CT scan demonstrated pericardial effusion, heart and liver dilatation and moderate ascites suggestive of initial cardiac decompensation. The Gynecological findings were normal. In the subsequent months her cardiac failure worsened despite medical treatment and an emergency pericardectomy was performed. This was followed by a multi-organ failure, from which the patient eventually recovered.

Conclusion: CA-125 has recently emerged as a promising biomarker of heart failure. This could have an additional predictive role in patients with cardiac decompensation. Gynecologists should be aware of a variety of medical conditions that raised CA-125 levels could be associated with.

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MAST CELLS IN BLADDER PAIN SYNDROME/ INTERSTITIAL CYSTITIS: USEFUL BIOMARKERS, OR NOT?

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Introduction: Clinical diagnosis of bladder pain syndrome/interstitial cystitis (BPS/IC) and overactive bladder syndrome (OAB) is complicated by subjective and overlapping symptoms. The hallmark symptom of OAB is urgency, and BPS/IC is defined as pain accompanied by a persistent urge to void or urinary frequency. The guidelines of the European Society for the Study of Interstitial Cystitis consider infiltrates of >28 mast cells in 1 mm2 of detrusor muscle as diagnostic histological criterion for BPS/IC, but elevated mast cells are also indicative of OAB. Considering the proposed importance of mast cells in the distinction of OAB and BPS/IC, we aimed to reassess mast cell counts, type of infiltrates, state of activation and distribution of mast cells in biopsies from patients with BPS/IC with and without Hunner's lesion, OAB and healthy controls.

Materials and methods: Bladder biopsies of 12 patients with BPS/IC with Hunner's lesion, 19 patients with BPS/IC without Hunner's lesion, 13 patients with OAB, and 12 healthy controls were analysed on hematoxylin and eosin stains and with immunohistochemistry with antibody to mast cell tryptase. Patients were allocated to study groups by key bladder symptoms commonly used to define conditions (pain, major urgency).

Results: Subepithelial mast cell localization ($p<0.001$) and elevated detrusor mast cells ($p=0.029$) were characteristic for BPS/IC with Hunner's lesion. But mast cell activation ($p=0.21$) or total submucosal mast cell numbers ($p=0.16$) did not distinguish BPS/IC with Hunner's lesion from the other groups. The optimal cutoff of 32 detrusor mast cells/mm2 reached an accuracy level of only 68% (38% positive predictive value). Mast cell assessment did not identify differences between BPS/IC without Hunner's lesion and OAB. Differences between the patient groups were found in lymphocytic infiltration ($p=0.001$), nodular lymphocyte aggregates ($p<0.001$), and urothelial integrity ($p<0.001$).

Conclusion: Subepithelial mast cell distribution was characteristic for BPS/IC with Hunner's lesion. Detrusor mastocytosis had a poor predictive value for BPS/IC, and mast cell assessment was not suitable for distinguishing between BPS/IC without Hunner's lesion and OAB.

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SPONTANEOUS HETEROTOPIC TUBAL PREGNANCY AT 17 WEEKS OF AMENORRHEA: A CHALLENGING AND UNUSUAL DIAGNOSIS

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Introduction: Heterotopic pregnancy is a rare event accounting for 1/30'000 pregnancies. With increased use of assisted reproductive procedures, the rate is rising to 70 fold. We report a case of heterotopic spontaneous pregnancy diagnosed at 17 weeks of amenorrhea treated by laparoscopy with following evolutive intra-uterine pregnancy.

Materials and methods: A 37-years-old woman gravida 2 para 1 without any relevant past medical history apart from a normal vaginal delivery presented to our emergency clinic at 16 2/7 weeks of amenorrhea complaining of abdominal pain starting two days before. She described acute left pelvic pain irradiating in the back and the left thigh. Her gynecologist had given her antibiotics (cefuroxime) for suspicion of bladder infection without improvement of the pain. At clinical examination, abdominal wall was tender but without guarding and rebound. Blood and urinary tests were all normal. Abdominal ultrasonography was described as normal and constipation was suspected. She was treated with laxatives and sent home. Four days later, she returned to our emergency unit complaining of the same symptoms. Clinical exam was superimposable and blood tests were normal except for a decrease in the Hb value (101g/l vs 114 g/l). Abdominal ultrasonography revealed a normal intrauterine pregnancy and a painful left para-uterine 7 X 5 cm mass poorly vascularised. Adnexal torsion was suspected and emergency laparoscopy planned.

Results: We performed laparoscopy using low pneumoperitoneum pressure because of the pregnancy. The findings revealed a 100 ml hemoperitoneum and a complex left adnexial mass adherent to the uterus, and surrounded by a hematoma. After careful adhesiolysis, we suspected a left tubal chronic ruptured pregnancy and performed a left salpingectomy. Histology confirmed the presence of chorionic villus. Post-operative course was uneventful and she returned home 3 days after surgery with normal control of the intra-uterine pregnancy.

Conclusions: We found few case reports of second trimester heterotopic pregnancy, and most of them after assisted reproductive therapy. To our knowledge this is the first case of chronic heterotopic tubal pregnancy after spontaneous conception during the second trimester of pregnancy This case illustrates the difficulty of diagnosis and management of this challenging diagnosis of utmost importance as life-threatening rupture of the tube may occur.

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EXCISION OF FIBROADENOMAS THROUGH INFRAMMARY FOLD INCISION (IFI)

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Introduction: Fibroadenomas (FA) are benign common tumours, which usually affect women in the second and third decades of life. These tumours are typically present as firm, mobile and frequently multiple breast nodules. FA are usually small and can be managed conservatively ; 0.5-2 % of these lesions grows rapidly. Breast FAs are traditionally managed by FETOI (FA excision through an overlying incision). To preserve cosmetic a method of FA excision through a periareolar incision (FETPI) has been developed. For patients with multicentric benign breast lesions the „round block" with minimal postoperative scar has been described. Avoiding a scare in the breast there has been also reported by TATS method : Transaxillary approach with use of traction suture (TATS). Plastic surgery techniques such as vertical scare mastopexy or inverted T-technique is necessary in cases with severe breast asymmetry, ptosis or for giant FAs

Materials and Methods: We present our surgical approach of FA excision through inframammary fold incision (IFI). The incision is made in a length of 4-5 cm in the same matter as we would use for a subglandular augmentation mastopexy. Once the incision is made and the fascia scarpa is cut the mammary gland will be dissected from the pectoralis major muscle using the lighted retractor. A subglandular pocket will be created. When the FA is reached the breast tissue is going to be dissected until we see the capsule of the FA. The capsula has to be opened, the FA will be bluntly enucleated. A careful haemostasis is necessary. The FA will be removed through the inframammary incision. The surgical wound is closed in layers, first closing the deep fascia and dermis with interrupted 3.0 absorbable monofilament sutures and finally closing the skin incision with a running subcutaneous suture 4.0.

Results: Photo documentation of the whole surgical procedure step by step.

Conclusion: Through our method, which is a plastic surgery approach, we achieve better cosmetical results. The patients prefer this method. We can manage the FAs in every quadrant of the breast. We recommend it for bigger than 2 cm lesions. Disadvantage: when FAs are located in the upper quadrant of the breast, the mammary gland has to be dissected. The surgeon should have a good knowledge of plastic surgery techniques.

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GYNECOLOGICAL SKILLS LAB – A SIMPLE BUT EFFECTIVE WAY TO TRAIN CLINICAL AND MANUAL SKILLS IN A LOW-BUDGET SETTING

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Introduction: Next to clinical experience, the individual study of literature and practicing manual skills are an essential part of medical education. It is proven that learning in a relaxed atmosphere helps to recall the trained skills. In this project we want to present our skills lab concept as an inspiration to our colleagues in the setting of a non-university gynecological and obstetric clinic in order to facilitate daily learning in theoretical knowledge and practical skills.

Methods: In our gynecological clinic we have established a skills lab, where all available study materials required for residents as well as students are collected in a single room. The contents comprises a library with common medical textbooks, EGONE, all our subscribed journals, recently published studies and a collection of gynecological and obstetrical training models that enable the visitors to practice suturing, knot-tying, pelvic exams as well as laparoscopic skills with two fixed camera pelvi trainers. Set in a quiet environment, the skills lab's organization facilitates and accelerates access to the individual learning materials without requiring much effort to start, as the models are well structured, easy to start up or install and mostly come with instructions. This way our students and doctors can use short time intervals in between busy daily schedules or during night shifts to independently study.

Results: The skills lab proved to be very popular to our students and residents, the most used models being the laparoscopy trainers and the suturing models. An improvement - especially in manual skills in the operating room - could be remarked within the last 6 months after installation of the lab. Even more experienced consultants are trying to improve their skills by practicing.

Conclusions: In most hospitals in Switzerland, the provided items and models will be present, too, but the collection of all learning materials in a single location of that extent is unique to our knowledge. Pre installation requirements were the already existing models, an empty room and the motivation to create a simple accesss to learning. This can also be done with a low budget in all non-university hospitals. It enables the users to spontaneously study and practice and can thereby improve the clinical treatment of patients. In our opinion, it is a feasible, non-expensive method to help younger residents and students to become good clinical doctors.

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APPENDICITIS IN PREGNANCY- A CHAMELEON IN SYMPTOMS. A CASE SERIES OF 5 WOMEN AT DIFFERENT WEEKS OF GESTATION

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Introduction: Acute appendicitis in pregnancy is the most common non-obstetric condition and accounts for 25 percent of all non-obstetric operations in pregnancy. The incidence is similar to that in non-pregnant women. It is seen in approximately 1 in 1500 pregnancies and most commonly in the second trimester. In pregnancy the disease leads to a much higher complication rate with increased morbidity and mortality for mother and fetus. Due to the anatomical and physiological changes that occur in pregnancy, it is difficult to distinguish the normal complaints in pregnancy with the common symptoms of acute appendicitis. Laparoscopic surgery is effective in all trimesters and is considered standard treatment despite a minimally fetal risk.In this case series we want to outline the clinical characteristics of appendicitis in pregnancy, the diagnostic algorithms and the treatment options according to recent surgical and obstetric literature, as well to present some our own clinical cases over the course of the last two years including the management and outcome.

Results: Case 1: 38-year-old G3P2 at 38 weeks of gestation presented with abdominal pain and tenderness of the right lower quadrant (RLQ). A laparotomy with a combined caesarean section was performed showing a perforated appendix
Case 2: 35-year-old G2P1 at 23 weeks of gestation with presenting nausea, RLQ pain, ultrasound showed free liquids. A laparoscopic appendectomy was performed which showed appendicitis.
Case 3: 33-year-old G2P1 at 29 weeks of gestation presented with paraumbilical pain, tenderness of RLQ.Ultrasound was normal. Laparoscopic surgery showed a perforated retrocecal appendix. Postoperative antibiotic treatment was given.
Case 4: 31-year-old G2P0 at 16 weeks of gestation presented with RLQ pain for 48 hours, obstipation and nausea.Ultrasound was normal. A diagnostic laparoscopy showed a catarrhal appendix.
Case 5: 34-year-old G1P0 at 19 weeks of gestation presented with right abdominal pain, tenderness and vomiting. Laparoscopic appendectomy showed appendicitis acuta.

Conclusion: As acute appendicitis during pregnancy can present with various symptoms, good clinical skills are needed to prevent missing the diagnosis. Early surgical intervention by laparoscopic appendectomy is essential. The postoperative antibiotical treatment depends on clinical situation. In all our cases, diagnosis was given within a few hours after first consultation in our hospital. None of the mothers or fetuses showed severe complications.

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ANAPLASTIC LARGE CELL LYMPHOMA ASSOCIATED WITH BREAST IMPLANT

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Background: After the first case report in 1997 by Creech et al., an increasing and preoccupying number of cases of anaplastic large cell lymphoma (ALCL) associated with silicone breast implants have been reported. Up to now 173 reports of breast implant-associated ALCL have been described in literature. We report a case of ALCL in a 42-year-old woman 14 years after cosmetic breast augmentation with silicon implants.

Case report: An Hispanic 42-year-old woman presented with fever, joint pain and enlargement of right axillary lymph nodes in our emergency room; her history revealed a cosmetic bilateral breast augmentation with silicon implants at age of 28. Three years before admission the implants were replaced after implant rupture with silicone leakage. A MRI was performed and revealed progressive reactive lymphadenopathy in the right axilla. A biopsy of the enlarged lymph nodes showed an ALK negative anaplastic large cell lymphoma.
Considering both the clinical and pathologic evidences the main differential diagnose was Kikuchi disease, a rare immune reactive disease, or hystiocitic necrotizing lymphadenitis.
After a second opinion and interdisciplinary meeting, chemoterapy was initiated and capsulectomy was planned.

Discussion: despite ALCL is a rare disease , in 2011 the FDA announced a possible relationship between ALCL and breast implants, even if the role of the implant in the pathogenesis of the lymphoma remains unknown. Breast implant associated ALCL (iALCL) is usually described as tumor cells infiltrating the periprosthetic capsule; it is usually associated with late onset peri-capsular seroma and in a minority of cases with a distinct mass. Clinicians must consider the possibility of ALCL in every patient with late-onset peri-implant seroma, persistent capsular contracture or masses adjacent to the breast implant or in the regional lymph nodes. Although the risk is quite small, women need to be aware that there have been reports of ALCL occurring around saline and silicone gel-filled breast implants; regular monitoring of implants and breast screening evaluations must be strongly recommended.

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DESMOID TUMORS OF THE BREAST, A CASE REPORT OF A RARE DISEASE

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Introduction: Desmoid tumors are rare and often wrong diagnosed as a primary or recurrent breast cancer. The frequency is about 0.2 percent of all neoplasms of the breast. Desmoid tumors are locally aggressive tumors with no known potential for metastasis. They have a high recurrence rate even after complete resection. Risk factors of recurrence are young age, positive margin, large tumor size and present breast cancer or breast surgery in history.

Case: We present a 26-year old patient with a mass in her breast after a breast reduction mammoplasty two years ago. The mass was clinically and radiographically suspicious for carcinoma. The core needle biopsy was unsuspicious. After interdisciplinary discussion we decided to perform an excisional biopsy. The histology showed a fibromatosis of desmoid typ with positive surgical margins. Due to lack of guidelines in treatment of desmoid tumor our tumorboard decided to observe the patient. The clincal follow up after 4, 8 and 12 month was uneventful. A magnetic resonance imaging (MRI) after one year showed no sign of relaps.

Conclusion: There are no established guidlines in the management of a desmoid tumor of the breast. In general excision with clear margins is a standart therapy. In the past some centers suggest the strategy to treat only progressing or symptomatic disease. As we showed in our case, it is justified, to follow a wait and see policy in some desmoid tumor.

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PSEUDOVASCULAR SQUAMOUS CELL CARCINOMA OF THE VULVA

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Introduction: We present a case of a 83-year-old woman with a squamous cell carcinoma of the vulva, pT1b, pN0, L1, V0, G3, who, after initial complete resection, died just 4 months after the first diagnosis. She showed a fulminant progression of the Tumor.

Case Report: The biopsy of a bleeding tumor from the left side of the introitus vagina in May 2014 showed an intermediate grade squamous cell carcinoma.

The Staging-CT- Scan diagnosed an enlarged inguinal lymph node (2.4 cm) on the left side. Additionally it showed cystic lesions of up to 8 cm of both adnexa.

The operation took place in June 2014. Initially we performed a laparotomy to diagnose the cystic lesions of the adnexa. The frozen section showed a benign tumor. Then we performed a pelvic lymphadenectomy on the left , an inguinal lymphadenectomy on the left and a hemivulvectomy on the left.

The postoperative stadium was a high grade, mainly exophytically growing squamous cell carcinoma of the vulva pT1b, pN0 (0/43), L1, V0, G3, R0 with a minimum margin of 7 mm. A Lichen sclerosus was found in the surrounding skin. The definitive histological diagnosis of both adnexa was a paratubal cyst on the left side and a fibroma on the right side.

Initially the patient recovered normally from the intervention. Three weeks postoperatively there was a deterioration of her general condition and signs of an infection of an inguinal lymphocele on the left side. We did an exploratory surgery, V.A.C. therapy system was performed and i.v. antibiotics were given. Because of increasing dyspnea and an elevated white blood cell count a pleural effusion was diagnosed. We found cytological evidence of malignant cells in the aspirate and there was thoracoscopic suspicion and histological proof of pleura carcinosis. Additionally a local genital relapse on the left was proven histologically.

Because of the systemic and local relapse of the cancer and the detoriation of the general condition of the patient, we decided for palliative care with the patients relatives. Exitus letalis in september 2014. Cause of death according to autopsy was respiratory failure caused by pleura carcinosis and multiple metastases.

Conclusion: We describe an unsusual but very aggressive form of an acantholytic squamous cell carcinoma that mimics angiosarcoma in histology, a so called pseudoangiosarcomatous carcinoma of the vulva. There are squamous cells which are in lines with cystic spaces formed in between, immunohistological markers for squamous cells are positive (CK 5/6, p63).

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BREAST TUMOR RESEMBLING THE TALL CELL VARIANT OF PAPILLARY THYROID CARCINOMA

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Introduction: "Breast tumor resembling the tall cell variant of papillary thyroid carcinoma" was first reported in 2003 by Eusebi et al. It is a rare entity of breast lesion characterized by histologic features similar to those of the tall cell variant of papillary thyroid carcinoma. Altough these features raises the possibility of a metastasis from the thyroid, the tumor is immunohistochemically negativ for thyroid transcription factor (TTF-1) and thyroglobulin, 2 markers that together characterize nearly 100% of papillary thyroid carcinoma. As well as molecular studies for mutations of the RET protooncogene and BRAF were negative. Variable expression is reported for Gross Cystic Disease Fluid Protein-15 (GFDFP-15), estrogen and progesterone receptor. To date only 12 cases have been reported with similar histological findings.

Material and Methods: We present an case of "breast tumor resembling the tall cell variant of papillary thyroid carcinoma" that was diagnosed in our clinic. We also reviewed and compared the previous cases of BTPTC concerning diagnosis, therapy, disease free survival and prognosis.

Case report: A 83-year-old woman presented with a mass in the outer lower quadrant of her left breast. The ultrasound showed a 3-cm well circumscribed inhomogene zystic lesion. A histologic biopsy showed some papillary clusters without signs of malignancy. Because the skin was involved a surgical exzision was perfomed. Microscopically the lesion showed a papillary architecture reminiscent of papillary thyroid carcinoma. The lesion was negativ for estrogen receptor, progesteron receptor, Her2, TTF1, TG, BRAF, RCC, Calp, P63, CD10, NYBR1, Mammoglobin and positiv for CK7, CK1/5, AR (100%), MIB (10-15%), GATA3 (focally pos), brst2 (diffusely pos).

This lesion was diagnosed as "tall cell variant of papillary breast carcinoma".
In the cases reported in the literature, all patients have been treated by surgical excision of the tumor. Two patients had metastatic disease. Both of these cases were stage pT2 tumors. Other reported cases had even larger primary lesions without evidence of metastasis. Reported clinical follow-up of up to 9 years revealed that the majority of patients diagnosed with this variant of papillary breast carcinoma survived the disease.

Conclusion: A review of the current literature makes evident that breast tumor resembling the Tall cell variant of Papillary Thyroid Carcinoma show malignant potential and that the recommended treatment and prognosis of this entity may be similar to that of classical papillary carcinoma of the breast. Clinico-pathological assessment of this rare tumor type should always include an immunohistochemistry for thyroid transcription factor (TTF-1) and thyroglobulin as well as a sonographic examination of the thyroid gland to exclude a metastatic thyroid cancer.

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MIMICRY OF URINARY TRACT INFECTION – BLADDER INFILTRATION BY LANGERHANS CELL HISTIOCYTOSIS

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Introduction: Langerhans cell histiocytosis (LCH) is a proliferative disorder that belongs to the dendritic cell disorders. LCH is an inflammatory myeloid neoplasia and can occur as heterogeneous disease ranging from single-organ involvement to systemic disease.

Case presentation: We present an unusual case of LCH in a 45 year old woman with cervical cancer FIGO stage IVB. The cervical cancer was treated with 6 courses of combined radio-chemotherapy, followed by brachytherapy. Three months after complete remission the patient was readmitted with severe and persistent dysuria despite several courses of antibiotic therapy due to assumed urinary tract infection (UTI).

Results: Sterile leucocyturia was seen and cystoscopy revealed three small mucosal lesions and an ulceration compatible with post radiation cystitis. Due to opiate dependent persistent dysuria and to exclude cancer relapse a CT-scan was performed, showing multiple micro-nodular and cystic pulmonary lesions and a nodular hepatic pattern. In both organs, biopsies revealed infiltrations of CD1a positive histiocytes, which were also confirmed in the bladder biopsies. Diagnosis of systemic LCH with involvement of liver and bone marrow was established by PET-CT. Due to repeated pneumothoraxes, only one course of vinblastine-prednisolone could be applied. Two months later, PET-CT revealed spontaneous remission of the LCH; unfortunately, the cervical cancer recurred meanwhile.

Conclusion: In patients diagnosed with LCH, involvement of the bladder should be considered if unexplained symptoms of UTI are present. Our case demonstrates spontaneous remission of LCH, even in high risk cases with involvement of liver and bone marrow.

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AMBIGUOUS GENITALIA AND NEPHROPATHY: A CASE OF FRASIER SYNDROME

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Introduction: The Wilm's tumor gene (WT1) encodes a transcription factor involved in the development of the kidneys and gonads. Mutations of this gene were identified in patients with Frasier syndrome, defined by pseudohermaphroditism and progressive glomerulopathy. Here, we present a case of Frasier syndrome operated in our Department of Gynecology.

Literature: Frasier syndrome is a rare disease characterized by steroid-resistant nephrotic syndrome, increased risk of gonadoblastoma (67%) and male pseudohermaphrodism (normal female external genitalia, streak gonads, and 46,XY karyotype). This syndrome is caused by point mutations in WT1 gene, and usually manifests with nephrotic syndrome in childhood progressing to end-stage renal failure in early adulthood. This diagnosis is usually suspected when children showing steroid-resistant nephrotic syndrome are evaluated for delayed puberty or primary amenorrhea.

Results: A 27-year-old female patient was sent in our Department for preventive bilateral oophorectomy. She is followed in our hospital since 2006 for an end-stage renal failure associated to a glomerular nephropathy. Her medical history revealed a primary amenorrhea. The clinical exam showed Tanner mammary development at stage II-III and clitoridian hypertrophy with no other signs of hyperandrogenism (Ferriman and Gallway score =4). The transvaginal ultrasound and the pelvic RMI demonstrated a small uterus without visible gonads. The laboratory tests showed an hypergonadotropic hypogonadism (estradiol 0,07 nmol/l, LH 151,8 UI/l, FSH 179,4 UI/l), with undetectable Anti-Müllerian hormone and Inhibin B at 23 pg/ml. Her testosterone level was 2.8 nmol/l, suggesting the presence of gonads. The karyotype was 46,XY with no mutations in SRY gene. The molecular analysis of WT1 is still ongoing. She also presents a severe osteoporosis at the lumbar spine (Z-score -4,9) and at the femoral level (Z-score – 2,4), likely due to the combination of hypogonadism and renal failure. The operative status showed a small normal-shaped uterus and two streak gonads. Consequently, we proceeded with a bilateral annexectomy. The anatomo-pathological exam is still in progress.

Conclusion: Here we present a case of Frasier syndrome presenting with radiologically undetectable gonads, high testosterone levels, low inhibin B and no detectable AMH. Frasier syndrome is a rare disease that should be ruled out in case of primary amenorrhea associated with renal failure, given the high risk of gonadoblastoma.

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GROTESQUE GIANT BREAST TUMOR: THE MALIGNANT PHYLLOIDES TUMOR – A CASE REPORT

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Introduction: Phylloides tumors are uncommon fibroepithelial breast tumors that constitute 0.3% of all breast malignancies. At time of diagnosis the majority shows a size of 3-5 cm in woman of 42 to 45 years median age. These circumstances relate to the following case presentation: A grotesque breast mass at clinical presentation and a rapid tumor growth showed a 44-years-old woman – the case should be introduced because of extremely rare picture and surgical challenge.

Material: 44-years-old woman presented with a painless, rapidly growing right breast mass since 9 months. In the beginning a slow growth was observed. In the course explosive increase in size with size doubling within 2 weeks was predominant. Positive B-symptoms, no hormone releasing therapy in past, negative personal and family history for cancer were observed.

Results: The clinical examination showed a right-sided gigantomastia with 30cm by measuring, well-defined round with superficial ulceration, dilated veins and macrolobulated surface. Axillary lymphnodes were inconspicuous. Sonography illustrated hypoechogenic, inhomogeneous tumor mass with cystic cavities and solid parts. The core biopsy exposed a biphasic malignant tumor corresponding to malignant phylloides tumor. Beside of the right breast tumor, there was no evidence for axillary and distant metastasis in the preoperatively PET-CT. Radical mastectomy with pectoral fascia (3890g) and abdominal enhancement for coverage followed. The histopathological examination confirmed the diagnosis of malignant phylloides tumor with resected margins free of tumor.

Conclusion: Phylloides tumors are classified histologically as benigne (60-70%), malignant (25-30%) and borderline with rapid increasing in size and may develop a biphasic growth pattern. The preferred method for making a diagnosis is the core biopsy examination. A small part of patient will develop hematogenous metastasis – Staging examination is necessary. A wide local excision with histologic margins negativ for malignant cells is preferred on the basis of high recurrence rates (60%) for positive margins. Axillary lymph node involvement is unknown, therefore axillary staging is not recommended. Due to lack of evidence there are no validated benefits for adjuvant therapy. The biological behaviour can not be predicted with certainty, so the concept of treatment is based on wide local excision in healthy, regular controls with early detection of local recurrence and adequate treatment in case of metastasis.

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BLEPHAROPHIMOSIS-PTOSIS-EPICANTHUS INVERSUS SYNDROME (BPES) TYPE I - A CASE REPORT

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Introduction: Blepharophimosis-ptosis-epicanthus inversus syndrome (BPES) is a rare, autosomal dominant familiar disease affecting the development of the eyelids, caused by a mutation in the FOXL2 gene. Type II BPES only affects the eyes whereas Type I is also associated with infertility in females due to premature ovarian failure (POF).

Case report: We report a case of a 28-year-old female, presenting at our clinic for infertility treatment. In her childhood she had to be operated twice due to eyelid abnormalities, similar to those in BPES. An oral contraceptive pill was prescribed when primary amenorrhea persisted at the age of seventeen. Karyotyping showed a normal result. At the age of 24 years, her FSH was 30,2 IU/L and DXA-measurement showed reduced bone density.

When we first saw her, the AMH-Level was <0,2 pmol/l. Ultrasound examination showed a small uterus with an a.p.-distance of 22 mm. The endometrial thickness was 2 mm; no antral follicles could be seen. Without hormonal therapy she suffered from mild menopausal symptoms. As no fertility-treatment could be offered due to the depletion of ovarian follicles, our recommendation was to continue with the interrupted hormone therapy.

Discussion: Recent findings show that mutated FOXL2 gene, as it is present in BPES, was found to be unable to activate AMH transcription in human granulosa cells, in in-vivo mouse gene delivery experiments, this lead to an accelerated follicle growth.

In future AMH perhaps may be used as an early parameter to distinguish between BPES Type I and II. Affected women could then benefit from early procedures to protect their ovarian pool like ovarian tissue cryopreservation.

Reference: Park et al. Fertil Steril. 2014 Sep;102(3):847-855

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CASE REPORT: DIAGNOSTICS AND MANAGEMENT OF OVARIAN CANCER AND MULTIPLE MYELOMA

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We report the complex oncologic case of a 55y old female patient mit suspicion of ovarian cancer. In the course of a routine check up she mentioned perfuse lower abdominal pain. Miction and defecation were normal, no postmenopausal bleeding. Body weight was stable. The patient had a personal history of right adnexectomy with mucinous cystadenoma of the right ovary. No family history of cancer.

Ultrasound showed an solidly enlarged left ovary fo 47x38x30mm beeing unconspicous one year before, an unconspicous uterus with an endometrium of 6mm and a mild ascites. CT scan with complementary PET-CT showed an enlarged left ovary with possible infiltration of the sigma, ascites, suspicion of peritoneal carcinomatosis and suspicion of multiple osteolytic lesions in the ribs, sternum, vertebrae as well as a lesion of the thyroid gland.

CA 125 41,4 U/ml, PAP II. Differential diagnosis included ovarian cancer, thyroid cancer and multiple myeloma. Colonoscopy, gastroscopy, ultrasound of the thyroid and mammography were unconspicous. The punction of the iliac crest confirmed the diagnosis of a multiple myeloma IgG Kappa St. III. After tumorboard discussion a laparoscopic hysterectomy with left adnexectomy, intraoperativ frozen section, conversion to median laparotomy with pelvic and paraaortal lymphnodectomy, supracolic omentectomy, appendectomy and peritoneal biopsies was performed. The pathologic exam showed a serous ovarian cancer pT3c pN1 (1/52), G3, R0. Further tumorboard discussion recommended the primary therapy of the myeloma awaiting any futher treatment of the ovarian cancer.

Probably in this case its a coincidence of two diseases since a common pathogenesis is unknown. Neverless it is a stimulus to think about Galectin-3 (a S-Lecithin, which binds glycoconjugates containing beta-galactose) as a possible future adjuvant substance for both diseases. In spite of the very different biology of ovarian cancer and multiple myeloma, Galectin-3 has an important role regarding the adhesive properties of both tumor cells and could be an option for simultanous treatment of this diseases.

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