Annual Congress

gynécologie suisse

28 - 30 June 2017

Beaulieu Convention Center Lausanne

Abstracts

• Free Communications
• Posters
• Videos
## Authors

FM = Free Communications  
PI - PV = Poster Presentation and Exhibition  
P = Poster Exhibition  
V = Video Presentation

Subject to change

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Free Communications

FM = Free Communications
Is tachysystole a predictor of unsuccessful labor induction with misoprostol vaginal inserts?

Author: Sichitiu J., Desseauve D., Bodenmann P., Robyr D., Lepigeon K., Baud D., Vial Y.
Clinic: Obstetrics and Gynecology, University Hospital Lausanne

Introduction: MISODEL® is a 200-microgram misoprostol slow releasing vaginal insert. It is currently the only PGE1 cervical ripening agent approved by Swissmedic. Misoprostol vaginal inserts have been shown to increase rates of tachysystole, without adverse perinatal outcomes. However, literature is scarce regarding the correlation between tachysystole, as well as other obstetrical factors, and failed labor induction with such agents.

Material and methods: A retrospective cohort study in a Swiss tertiary maternity unit. Multivariable logistic regression was used to identify factors independently associated with unsuccessful labor induction, defined as vaginal delivery exceeding 24 hours post misoprostol administration, and Cesarean birth. Variables included tachysystole, maternal age, parity, maternal BMI, indication for labor induction, gestational age, fetal birth weight, Bishop score, maternal smoking, use of epidural anesthesia, and presence of meconium-stained amniotic fluid.

Results: 86 patients were included in this study. A total of 37 women (43 %) presented with tachysystole. No significant association was found between tachysystole and vaginal delivery after 24 hours (OR 0.6, 95%CI 0.1-2.7; p = 0.5) or Cesarean birth (OR 3.9, 95%CI 0.74-20.8; p = 0.1). Concerning patients with failed labor induction, 13 women (15.1 %) delivered vaginally after 24 hours, which was associated with nulliparity (OR 22.6, 95%CI 2.6-196.9; p = 0.05) and early initiation of epidural anesthesia (OR 6.1, 95%CI 1.4-26.9; p = 0.017). Also, 17 women (19.8 %) had a Cesarean birth, with factors associated being nulliparity (OR 57, 95%CI 2.4-1325.3; p = 0.012) and presence of meconium-stained amniotic fluid (OR 11, 95%CI 1.4-94.3; p = 0.02).

Conclusion: This study illustrates that the presence of tachysystole did not affect labor induction. Other maternal and obstetrical factors such as parity, early initiation of epidural anesthesia, and presence of meconium-stained amniotic fluid may predict labor induction failure with misoprostol vaginal inserts. These findings are comparable to studies involving other PGE1 and PGE2 agents. Such elements should guide the obstetrician in case's management, following a global assessment of the patient.
Maternal complications following open fetal myelomeningocele repair

Clinic: 1) Obstetrics, University Hospital Zurich, 2) Pediatric Surgery, University Children’s Hospital Zurich

Introduction: Despite the undoubtably benefits of open fetal myelomeningocele (fMMC) repair, i.e. reducing the need for ventriculo-peritoneal shunting and improving motoric outcomes, the prenatal surgery is associated with considerable maternal risks compared to postnatal repair. The aim of this study was to evaluate maternal complications after fMMC repair.

Patients and Methods: We evaluated the data of 40 prenatal MMC repair cases performed between December 2010 and July 2016 at the University Hospital Zurich for maternal complications up until 6 weeks post-partum. The inclusion criteria for fetal surgery and methodology are based on the MOMS-trial published in NEJM in 2011, except for two cases where the BMI of the patients exceeded the published 35kg/m2. The maternal complications were separated into minor and major. Thereby, minor events are defined as events not requiring therapy (with exception of analgesic, antipyretic and antiemetic drugs) whilst major events are defined as potentially life-threatening complications.

Results: The gestational age at fetal MMC repair was between 22.4 and 26.1 weeks. 10/40 women (25%) had severe complications, either directly related to the fetal surgery (N=4; 10%) or during the further course of pregnancy (N=6; 15%). This included placental abruption in 3 cases (7.5%), sepsis in 2 cases (5%) and strong bleeding, lung embolism, AV-block III°, preeclampsia and uterine rupture in 1 case each (each 2.5%). We further observed 22 (55%) minor complications, consisting of, most importantly, 15 (37.5%) cases with a hematoma/seroma, 14 (35%) cases with PPROM, 12 (7.5%) cases with chorioamniotic membrane separation, and 3 (7.5%) cases with amniotic fluid leakage.

Conclusion: Severe maternal complications directly related to fetal surgery occurred in 10% of cases, demonstrating that an experienced team is necessary for optimal management and care of mother and fetus. With technological advances and increased experience, we expect to not only improve the outcome for the fetus but also lower the risk for its mother significantly.
High first-trimester maternal blood cystatin C levels despite normal serum creatinine predict pre-eclampsia in singleton pregnancies

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**Clinic:** 1) Zentrallabor, Cantonal Hospital Chur, 2) Labormedizinisches Zentrum Dr. Risch, Schaan & Liebefeld, 3) Obstetrics and Gynecology, Inselspital, Bern University Hospital, University of Bern, 4) Sonnenhofspital, Bern, 5) Institute of Laboratory Medicine, Philipps University Marburg, Marburg, Germany

**Introduction:** Early biochemical identification of women at high risk for the development of preeclampsia (PE) is still unsatisfactory. Renal markers measured during the first trimester were analyzed to predict later occurrence of PE.

**Materials & Methods:** A nested case-control study was conducted within the prospective PRADO study. Pregnant women were included at the end of the first trimester and followed-up until birth. Controls were matched to PE cases by age, ethnicity, gestational age at study entry, BMI and smoking habits, and or creatinine. Renal markers (i.e., creatinine, cystatin C (CysC), β2 micro-globulin (B2M), β trace protein (BTP), glomerular filtration rate estimations (eGFR) of the aforementioned markers, uric acid (UA), urea, and serum uromodulin (sUMOD)) were compared to placental growth factor (PlGF), a marker known to predict PE later in pregnancy. Reference intervals were determined for the different markers according to CLSI EP28-A3c.

**Results:** In the 183 women (PE, n=39; controls, n=144), CysC, the CysC/PlGF ratio (p<0.01) and UA were higher, whereas the eGFRCysC/eGFRCrea ratio (a marker of glomerular endothelial integrity) and PlGF were lower in women who developed PE (p<0.05 for all other differences). Compromised filtration of the larger molecule CysC in a subset of PE cases (15.3%) was a unique, strong and independent predictor of later PE if the baseline CysC concentration was >0.85 mg/L (OR 8.3 95% CI [1.04, 63.4]).

**Conclusions:** In conclusion, CysC and its derivatives as well as UA, indicating volume expansion, measured at the end of the first trimester are predictive of PE. Thus, women can be easily identified and followed as an early reduction in glomerular filtration quality poses a high risk for a subsequent development of PE.
The Economic Impact of sFlt-1/PlGF Ratio as Predictive Test in Women with Suspected Pre-eclampsia in Switzerland

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Clinic: 1) Roche Diagnostics Switzerland, 2) Women’s Health Clinic, Cantonal Hospital Lucerne, 3) Women’s Health Clinic, University Hospital Basel

Introduction: In Switzerland, pre-eclampsia (PE) is reported in about 3.3% of pregnancies (Beinder, 2006). The quantification of the ratio between two angiogenic placement factors (soluble fms-like tyrosine kinase-1, sFlt-1/ placellular growth factor, PlGF) has shown diagnostic value in clinical decision making in pivotal studies and clinical practice. The aim of this analysis is to estimate the economic impact of implementing the sFlt-1/PlGF ratio test for the prediction of PE in addition to standard of care (SOC), for Swiss women with suspected PE from a Swiss health care system's perspective.

Methods: A decision tree model has been developed to estimate the direct medical costs of diagnosis and management of a cohort of Swiss pregnant women with first clinical suspicion of PE (median week of gestation: 32) until delivery. Patients can either be treated in an inpatient or outpatient setting. The model compared the strategy of SOC versus SOC plus the sFlt-1/PlGF ratio test. Clinical inputs derived from the PROGNOSIS study (Zeisler et al. NEJM 2016). Information on resource use and unit costs were obtained from public sources to represent a Swiss health care system perspective. The assumed total costs for the sFlt-1/PlGF ratio test were CHF 250. Clinical and economic input parameters were validated by National clinical experts.

Results: In the SOC scenario, 73% of all patients were hospitalized during their pregnancy, and 27% were treated as outpatients only. In the sFlt-1/PlGF ratio test scenario, 23% patients were hospitalized and 77% were treated as outpatients. On average, the total costs per pregnant women ranged between CHF 5’759 with SOC and CHF 5’119 with the sFlt-1/PlGF ratio test, respectively. Assuming an annual incidence of 6’084 pregnant women with clinical suspicion of PE (i.e. 7% of all pregnancies in 2015, n=86’919), the total medical costs would amount to CHF 35.0 million (SOC) versus CHF 31.1 million (sFlt-1/PlGF ratio test), respectively. The implementation of the sFlt-1/PlGF ratio test would have the potential to achieve annual savings of CHF 3.9 million in the Swiss health care system, mainly due to the reduction in unnecessary hospitalization.

Conclusions: The introduction of the sFlt-1/PlGF ratio test into hospital practice would be clinically and economically promising to predict the short-term absence of PE. The improvement in diagnostic accuracy and a reduction in unnecessary hospitalization would lead to cost savings in the Swiss health care system.
Agreement between different sonographic techniques of fetal head and abdominal circumference measurements

Author: Bartkute K., Balsyte D., von Mehring R., Zimmermann R., Kurmanavicius J.
Clinic: Obstetrics, University Hospital Zurich

Introduction: Biometry of fetal head and abdominal circumference (HC, AC) is important for fetal weight estimation, monitoring of fetal growth and determination of gestational age in second trimester. In the beginning of ultrasound era fetal head and abdomen were measured using “two diameters” technique. “Ellipse” function was introduced later. However, most of biometry standards in use today were produced using “two diameters” technique. It is uncertain, whether HC and AC measured using these two different techniques, yield same results. Aim of this study was to compare “two diameters” and “ellipse” method for evaluation of fetal HC and AC.

Material and methods: In this prospective study 541 head and 516 fetal abdomen were measured using “two diameters” and “ellipse” methods on the same ultrasound plain between 14 and 42 weeks of gestation. Differences HC-ellipse (HCE) vs HC-calculated using “two diameters” (HCC) and AC-ellipse (ACE) vs AC-calculated using “two diameters” (ACC) were evaluated using Bland-Altman statistical method for assessing agreement between two methods. Mean percentage (PD) and mean absolute percentage difference (APD) were calculated according to the formula (HCE-HCC)/HCC x 100 and ABS(HCE-HCC)/HCC x 100.

Results: Limits of agreement (LOA) for HC according to Bland-Altman statistical method was between -1.055 and 0.998 cm, for AC -1.032 and 1.037 cm. However LOA increase if HC and AC increase. In the group of HC<25 cm LOA is -0.783 and 0.553 v. -1.106 and 1.094 in the group of HC≥25 cm and in the group of AC<25 cm -0.830 and 1.059 v. -1.643 and 1.433 in the group of AC≥25 cm. PD for HC was -0.14%, for AC -0.05% and APD for HC 1.38% and for AC 1.87%.

Conclusion: Both methods: “two diameters” and “ellipse” can be used for fetal biometry as they deliver comparable results.
Expanded genetic carrier screening decreases the risk of conceiving an affected child in both selected and unselected populations.

Clinic: 1) Clinica EUGIN, Barcelona, 2) Reprogenetics, Barcelona

Introduction: There are more than 1300 recessively inherited disorders (autosomal and X-linked), whose symptoms range from very mild to severe, cumulatively affecting at least 30 in every 10,000 births. Expanded carrier screening (ECS) allows to screen for multiple autosomal and X-linked recessive disorders, regardless of ancestry or geographic origin. This study examines the question if ECS does reduce the risk of conceiving an affected child through assisted reproduction.

Material and Methods: Retrospective consecutive cohort study including 2380 women (both patients and oocyte donors) and 986 men. All were tested with CarrierMap (Recombine), an ECS covering 2647 mutations implicated in 311 diseases. Samples were assayed using the Infinium iSelect HD Custom Genotyping BeadChip platform (Illumina). Donor candidates with a family history of FXS or more than 45 CGG triplets repetitions, mental retardation, chromosomal abnormalities, genetics or neurological conditions are excluded from the donor program. In addition 894 matches to identify the reproductive risk were performed.

Results: Of the 3366 individuals tested, 1458 (43.3%) were positive for at least one mutation; of them, 1091 (32.4%) carried one mutation, 306 (9.1%) two and 54 (1.6%) three; 7 individuals carried four or more of the mutations analyzed. The most frequent mutations were for Nonsyndromic Hearing Loss and Deafness (GJB2 Related): 152 (10.4%); carrier frequency 1:22. Pseudocholinesterase Deficiency: 98 (6.7%); 1:34. Fragile X syndrome: 97 (6.6%); 1:34. Cystic Fibrosis: 89 (6.1%), 1:38. Familial Mediterranean fever (FMF): 82 (5.6%), 1:41. Alpha-1-Antitrypsin Deficiency: 74 (5.0%), 1:45. 21-Hydroxylase-Deficient-Nonclassical Congenital Adrenal Hyperplasia: 40 (2.7%), 1:84. Out of the total of 894 matches, 26 (2.9%) showed a high reproductive risk, since both members were carrier for mutations leading to the same disease, thus having a 1 in 4 probability to generate an effected child. While matching with high reproductive risk involving donor gametes were replaced with different donors, the 2 couples of patients with high reproductive risk received genetic counseling and PGD was recommended.

Conclusion: ECS effectively detects couples at a higher risk of conceiving an affected child with a positive match rate of 2.9%. This value should be higher in patients, as most attempted matchings were made with oocyte donors, preselected for lower carrier status by initial specific genetic testing.
Pregnancy rate per transfer in women over 38 years is improved by PGD-A after Polar Body (PB) biopsy. A Swiss study on 159 embryo transfers.

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Clinic: 1) Procrealab SA, Molecular genetics laboratory, Lugano, 2) Procrea SA, Swiss fertility center, Lugano, 3) Labormedizinisches Zentrum Dr Risch AG, medizinische und chemische Labordiagnostik, Bern-Liebefeld

Introduction: PGD-A is an established technique for increasing the chance of pregnancy, especially in women older than 36. In this field, blastocyst biopsy has come to be considered the gold standard. Despite its safety and suitability for screening for maternally-derived aneuploidy, PB biopsy has been almost abandoned because of the higher costs and the higher biopsy skills requested. Consequently, there is a shortage of data concerning the effectiveness of PGD-A on PB. Aim of this study was to prove the effectiveness of PGD-A on PB to increase the pregnancy rate.

Material and methods: The result in terms of percentage of pregnancy rate (biochemical and ongoing pregnancy) in 80 embryo transfers after PGD-A on the first and second PB and resulting from 66 ICSI cycles was retrospectively compared to 79 embryo transfers without PGD-A, resulting from 79 matched randomized ICSI cycles performed in the same period in our clinic (2014-2016). All cycles were considered except for patients requesting PGD for monogenic diseases or chromosomal translocations. First and second PBs were taken simultaneously about 20 hours after ICSI. PB were individually amplified by WGA and chromosomes were analysed by array-CGH. One or two embryos were transferred freshly at day 3, or frozen 22 hours after ICSI and transferred after thawing. Pregnancy was considered if bHCG was higher than 10 IU/L at day 14. Pregnancy rates in control and PGD-A groups were compared by Fisher’s two-tailed exact test.

Results: Mean patient age was 37 years for both groups. 967 PB from 488 oocytes were analysed. 40% of PB were euploid, 47% were aneuploid and for 12% the result was not available (indeterminate). By considering all the transfers (n = 80), the pregnancy rate per transfer in the PGD-A group was 38% versus 31% in the control group (p = 0.05). Considering only women ≥38 years at pick-up (n = 43 in PGD-A group, n = 41 in control group), the pregnancy rates were 47% (PGD-A) versus 22% (controls; p = 0.0003). For women ≥39 at pick-up (n = 34 in both groups), pregnancy rates were 45% (PGD-A) versus 18% (controls; p = 0.0004).

Conclusion: PGD-A on PB was shown to consistently increase the pregnancy rate per transfer in older women, via selection of euploid oocytes. Therefore PB is an effective alternative to blastocyst biopsy. Main advantages are 1) the possibility of transfer at day 2-3; 2) the absence of artifacts due to embryonic mosaicism.
Endometrial thickness is associated with the clinical pregnancy rate in unstimulated menstrual cycles

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Introduction: IVF studies based on conventional, gonadotropin stimulated IVF therapies have indicated that pregnancy rate correlates with endometrial thickness (EMT). Thin endometrium has been described to result in lower pregnancy rates. The aim of this study was to analyze the effect of EMT on pregnancy and live birth rate in unstimulated menstrual cycles.

Methods: Retrospective, observational single center study, performed 2011 to 2016. In women 18-42 years of age with regular menstrual cycles (24-32 days) and basal FSH concentrations <10IU/L undergoing their first NC-IVF cycle were identified. Only cycles leading to an embryo were considered for analysis. Excluded were: endometriosis >rAFS II° or sperm collection by Testicular Sperm Extraction (TESE). EMT at the time of oocyte pick-up as well as pregnancy rates and live birth rate were analyzed.

Results: 114 women undergoing a first NC-IVF cycle including embryo transfer were identified. 5 women (4.4%) were excluded due to severe endometriosis and 4 (3.5%) due to TESE resulting in 105 women to be included in the analysis. Women were aged 34.7±3.8 years (range 21-42). 20 women (19%) had performed previous classical IVF therapies without pregnancy. Infertility factors were male factors (n=54, 51.4%), endometriosis rAFS I-II° (n=15, 14.3%), tubal factors (n=19, 18.1%) and idiopathic infertility (n=17, 16.2%). AMH concentrations were 15.6 pmol/L (range 0.5-94). Follicle aspiration was performed on day 13.9±2.3 (range 9-18) of the menstrual cycle. Endometrial thickness was 8.7±1.7 mm (range 6-16). Biochemical pregnancy rate was 29.5%, clinical pregnancy rate 24.8% and live birth rate 15.2% per transfer. To analyze the effect of EMT, women were divided into three percentile groups (pg) (25th pg: endometrium ≤7mm (n=27), 25th -75th pg: endometrium >7mm and <10mm (n=48), 75th pg: endometrium ≥10mm (n=30). The pgs did not differ regarding age, AMH and cycle day of aspiration. Clinical pregnancy rate was in the lower pg 7.4%, in the medium group 27.1% and the upper group 36.7%. Pregnancy rates were significantly different in the three groups (P=0.034) as analyzed by Chi-Square test.

Conclusion: The study provides evidence that EMT not only correlates with pregnancy rate in stimulated but also in unstimulated cycles. Accordingly the thickness of the endometrium should be considered in any infertile couples even if ovarian stimulation is not performed.
Children born after Natural Cycle IVF (NC-IVF) have a lower risk to be small for gestational age (SGA) compared to children from conventional stimulated IVF (cIVF)

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Introduction: Hypertensive pregnancy disorders such as preeclampsia (PE) are more frequent in pregnancies conceived after in vitro fertilization (IVF) compared to spontaneously conceived pregnancies. The exact causes remain unknown. To be small for gestational age is an indicator for the development of PE. Studies have shown that gonadotropins may lead to minor endometrium quality associated with higher risk of SGA and PE. The aim of this present study was to evaluate the effect of gonadotropin stimulation on the incidence of PE and SGA in conventional stimulated IVF (cIVF) compared to completely gonadotropin-free natural cycle IVF (NC-IVF).

Methods: Retrospective cohort study including all women who got pregnant after a fresh IVF cycle (either NC-IVF or cIVF) at the University Hospital in Bern between 2010 and 2015. Excluded were pregnancies were clomiphene was used because of its effect on the endometrium as well as twins because of higher prevalence for SGA. Data were collected from the women's medical history and delivery reports. Fisher’s exact test and logistic regression were used to calculate p-values.

Results: 366 pregnancies conceived by IVF could be identified, whereas 146 ended in a miscarriage and 220 in a delivery. Of them 201 were singletons. 71 are excluded because of the use of clomiphene. 82 singelton deliveries are resulting from cIVF and 48 from NC-IVF. No significant difference in the incidence of PE could be found between NC-IVF (1/49) and cIVF (1/82) (ns). Significantly more babies have been born with a birthweight under the 5th percentile after cIVF (15/82) compared to babies after NC-IVF (2/49) (p-value 0.03). After adjusting for maternal age, maternal smoking and gestational age, women who underwent cIVF had a 5.7 times higher risk to deliver a low birthweight child (OR 5.70, p-value 0.028, 95%CI 1.21 – 26.93).

Conclusion: Due to the low number of women affected by PE, no significant difference in the incidence of PE could be found when comparing cIVF with NC-IVF. But there seems to be an association between SGA and the administration of gonadotropin. We hypothesise an effect of gonadotropin on the endometrium and placentation, which needs to be investigated. NC-IVF might be a valuable option for young women with male factor infertility to achieve a better neonatal outcome.
**FM II/24**

**What is the effect on pregnancy rates of an elevated number of retrieved oocytes in subsequent frozen embryo transfers?**

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**Introduction:** In the setting of IVF with controlled ovarian hyperstimulation, patients and clinicians share the goal of getting as many good quality embryos as possible. With that purpose in mind, and considering that the risk of ovarian hyperstimulation syndrome (OHSS) can now be well controlled, concerns remain regarding a reduction in the quality of eggs when increasing their number at retrieval. We therefore decided to retrospectively compare the pregnancy rates (PR) and the clinical pregnancy rates (CPR) of frozen embryo transfer between two groups of patients with either a normal or an elevated number of oocytes retrieved at ovarian puncture, who had all their embryos frozen for non uterine conditions.

**Material and methods:** Among the 518 stimulated IVF cycles using autologous oocytes that had a freeze all embryo (FAE) procedure between August 2010 and December 2013 in the OVO Clinic, we included only those for who the FAE was for OHSS or elevated progesterone, eliminating any endometrial factors. Two groups were selected, containing either patients with a normal (8-14 oocytes) response and an elevated (>30 oocytes) response. For each subsequent frozen embryo transfer (FET), we compared the PR and the CPR between the two groups, as well as the cumulative pregnancy rate.

**Results:** 59 patients had >30 oocytes retrieved and 52 patients had 8-14. Our results show no statistically significant difference between the two groups in terms of age, neither for the PR and the CPR for each FET, nor for the cumulative rates. We observed though clinical trend in favor of the high number group. PR for TEC1: 45.8% in >30 vs 34.6% in 8-14 (p=0.2); CPR for TEC1: 33.9% in >30 vs 25.0% in 8-14 (p=0.3); PR for TEC2: 35.3% vs 28.6% (p=0.6); CPR for TEC2: 32.4 % vs 25.0% (p=0.5); PR for TEC3: 38.5% vs 45.5% (p=0.7); CPR for TEC3: 38.5% vs 36.4% (p=0.9). The overall PR were: 74.6% in >30 vs 59.6% in 8-14 (p=0.09); the overall CPR were: 61.0% in >30 vs 46.2% in 8-14 (p=0.1).

**Conclusion:** Based on our retrospective data, there seems to be no harmful effect on oocytes quality of high ovarian response to controlled hyperstimulation. Setting apart the deleterious effect of high hormones level for the first fresh embryo transfer, it looks that elevated higher oocyte number only provides better chances of embryo accumulation and thus an increased cumulative pregnancy rate. This is an interesting perspective for egg banks and for patients whose IVF is not covered by an insurance program.
The Bernese gestational diabetes (GDM) project: Early HbA1c as a predictor of GDM

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Introduction: Gestational diabetes mellitus (GDM) is an increasing pregnancy complication with proven maternal and fetal morbidity. At present, there is no effective method of prediction of which patients will experience GDM. Recently, we were able to show that early HbA1c in at high risk pregnancies may help to identify those women. Therefore, the aim of this project was to investigate if HbA1c could be also used in a non-selected, general population as an early predictor for GDM.

Methods: A prospective cohort study was conducted including women with singleton pregnancy who had an HbA1c test at ≤14 weeks of gestation. Women with pregestational diabetes mellitus or HbA1c values ≥6.5% were excluded. The primary outcome was GDM diagnosed by standard procedure with a 75g oral glucose tolerance test performed between 24 and 28 weeks of gestation. Early HbA1c values were compared between women with and without GDM. Mann-Whitney U-test, ROC-curve analysis, and Fischer’s exact test were used for statistical analyses. Statistical significance was considered when p-value <0.05.

Results: 668 women met inclusion criteria during the study period. Median (range) gestational age at inclusion was 9 4/7 (7 1/7-13 2/7) weeks. The prevalence of GDM in the entire study population was 98/668 (14.6%). Significantly higher first trimester HbA1c values were found in women who later developed GDM (GDM: 5.20±0.59% vs. no GDM 5.15±0.37%; p=0.01). An early HbA1c cut off of ≥ 5.15%, calculated by ROC analysis, was associated with a likelihood ratio of 1.40 (95%CI 0.5150 to 0.6601) for the development of GDM in the third trimester. Sensitivity and specificity were 47.1% and 66.2%, respectively. No GDM was found if HbA1c was <4.5%. A subanalysis was performed comparing women with and without prediabetes (HbA1c 5.7-6.4%). 32 (4.7%) women fulfilled criteria of prediabetes. The prevalence of GDM was significantly higher in this group than in the control group (prediabetes: 14/32 [50%] vs. control group: 84/636 [13%]; p<0.004). Risk factors for pregestational diabetes had 20/32 (%) of the women with HbA1c between 5.7-6.4%.

Conclusion: Pregnant women with prediabetes are exposed to a substantially increased risk to develop GDM. Prospective studies should focus on the question if early life style interventions in this subgroup could be associated with a better short and long term maternal as well as neonatal outcome.
COMPARISON OF DIFFERENT FORMULAS FOR THE ESTIMATION OF GESTATIONAL AGE FROM CROWN-RUMP LENGTH IN FIRST TRIMESTER ULTRASOUND IN IVF/ICSI-PREGNANCIES

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Objective: Crown-rump length (CRL) measurement in the first trimester ultrasound is the standard method for pregnancy dating. The gestational age (GA) can be calculated by using different formulas. So far there are no official guidelines or criteria that prescribe a certain formula. Critically seen, all currently applicable formulas have specific disadvantages that increase the measurement error: the quality of the ultrasound measurement of the CRL due to the devices used for the derivation of formulas which are older than 15 years; the determination of the calculated age of pregnancy on the basis of the last period and a normal cycle length of 28 days in spontaneously developed pregnancies; the number of women; the lack of data coverage of the entire first trimester. The aim of this study is to compare the accuracy of most popular formulas for the estimation of the GA and the due date from CRL in first trimester ultrasound in IVF/ICSI-pregnancies (in vitro fertilization/intracytoplasmic sperm injection) with a conclusive day of conception.

Material and Methods: 1797 CRL measurements of ongoing pregnancies with accurate date of ovulation were taken from the database of the Department of Reproductive Endocrinology, University Hospital Zürich. All the measurements were accomplished in the first trimester by a specialist with a qualification for reproductive medicine. Most used formulas (Hansmann, Rempen, Wisser, Papageorghiou, Hadlock) were compared in three groups, based on the CRL: 1st 2.0-20.9 mm (n=1073), 2nd 21.0-50.9 mm (n=477), 3rd 51.0-85.0 mm (n=247). Only one of the formulas (Wisser) was derived from a relatively small group of dated embryos after IVF. Percent error (PE) was calculated according the formula: \((GAcrl-GAov)/GAov\times100\), where GAcrl – GA calculated from CRL, GAov – GA calculated from ovulation.

Results: Percent error results are presented in the table (mean and 95% CI).

<table>
<thead>
<tr>
<th>Author</th>
<th>1st PE</th>
<th>2nd PE</th>
<th>3rd PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hansmann et al 1986</td>
<td>6.6 (6.3 to 6.9)</td>
<td>1.9 (1.6 to 2.1)</td>
<td>3.5 (3.2 to 3.8)</td>
</tr>
<tr>
<td>Rempen et al 1991</td>
<td>-0.8 (-1.0 to -0.5)</td>
<td>-0.5 (-0.7 to -0.3)</td>
<td>2.0 (1.7 to 2.3)</td>
</tr>
<tr>
<td>Hadlock et al 1992</td>
<td>-2.3 (-2.6 to -2.1)</td>
<td>1.9 (1.6 to 2.1)</td>
<td>2.7 (2.4 to 3.0)</td>
</tr>
<tr>
<td>Wisser et al 1994</td>
<td>-0.4 (-0.7 to -0.2)</td>
<td>3.0 (2.8 to 3.3)</td>
<td>1.9 (1.5 to 2.2)</td>
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<tr>
<td>Papageorghiou et al 2013</td>
<td>7.8 (7.5 to 8.0)</td>
<td>2.0 (1.8 to 2.3)</td>
<td>2.0 (1.7 to 2.3)</td>
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Conclusion: Our study shows, that different formulas have different accuracy depending on CRL value. In the 1st and 3rd group Wisser formula was the most accurate formula. In 2nd group Rempen formula lead to the best results. The Papageorghiou formula, the newest one, unfortunately does not lead to the best results.
In vitro fetal membrane rupture model to evaluate the healing efficiency of an implantable smart material

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Introduction: Latrogenic preterm premature rupture of membrane (iPPROM) after fetoscopy is an important and still unsolved problem. Up to 95% of pregnancies after fetoscopies end up in a preterm delivery. Sealing and stabilization of fetal membranes after surgery could significantly extend pregnancy and thus drastically improve fetal health and survival. Our approach consists in implanting a smart material able to trigger the healing of the membrane defect. Here we present a 3D-in vitro healing model that begins to mimic the presentation of biological cues within the wounded fetal membrane. In our case, we establish and evaluate the effects of platelet-derived growth factor (PDGF) and epidermal growth factor (EGF) when exposed to the wound in their bound and unbound form.

Methods: To mimic the fetal membrane fibroblast layer, mesenchymal stem cells (MSCs) were encapsulated in a biomaterial. A channel was formed in this hydrogel by placing a wire during its polymerization. It was then put in the incubator for 2 days in standard culture media. This construct with its channel was taken as the model for fetal membrane and its wound. The engineered smart material was loaded with bound and/or unbound PDGF/EGF and then implanted into the channel, mimicking the deposition of the healing material at the fetal membrane defect. Immunohistochemistry and confocal imaging was done to assess the presence or not of MSCs in the implanted smart material and to evaluate the level of extracellular matrix deposition depending on the GF presentation.

Results: MSCs showed no response without the presence of growth factor. In contrast, the fetal membrane models stimulated by EGF and/or PDGF showed cell activity and recruitment into the implanted material. The response was even bigger when the growth factors were bound as opposed to their soluble version.

Discussion: The engineering of a smart material helped us to advance one step towards recreating a fetal membrane wound model. It enables us now to evaluate the best ways possible to combine and present growth factors triggering the necessary events of membrane healing. We believe that this model will help screening for factors inducing efficient fetal membrane healing and tackle to problem of iPPROM.
Maternity Care Experiences of Migrant and Swiss-Women – a Quantitative Study in Geneva and Zurich

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Background: Understanding migrant women’s experiences of maternity care are critical for receiving health systems to respond appropriately to increasing global migration. Among others, lower understanding of the health system due to language barriers and lower level of satisfaction with maternity care have been reported.

Objective: The present study compares the experiences with maternity care and the utilisation of information around pregnancy and childbirth among Swiss women to those with a nationality other than Swiss.

Method: This prospective cross-sectional study used a self-administered questionnaire, available in 10 languages, to compare the experiences of maternity care of a total of 438 women, 268 women with a non-Swiss nationality to 168 women with a Swiss-nationality at the Departments of Obstetrics at the University Hospitals Geneva or Zurich.

Results: The majority of women felt well informed during pregnancy (93.7%) and no significant difference emerged in both groups. Both groups mainly used the Internet (43.4%) to receive information, followed by doctors (27.4%). However, most women would appreciate to receive information around childbirth from their health care providers. Regardless of nationality, the majority of participants (94.0%) felt that doctors or midwives listened to them during childbirth and respected their decisions (94.9%). However, women with a non-Swiss nationality reported significantly more frequently that they could not practice cultural traditions surrounding childbirth. (p<0.05). An important finding of our study was that more than a quarter of participants did not take any folic acid during pregnancy, among those significantly more non-Swiss women.

Conclusion: In contrast to other studies, few differences were found in the satisfaction of migrant and non-migrant women with maternity care. The study highlighted the desire of both groups to receive more information by doctors. In respect to migrant women, the study confirmed a previous qualitative study that expressed women's needs for culturally sensitive health services. Another important finding that was highlighted already in a study in Switzerland by Poretti et al. in 2008 is that the folic acid supplementation remains inadequate and fails to reach especially migrant women. Policy makers and health services should improve information including the importance of folic acid supplementation and the provision of cultural sensitive health services.
When the three-vessel view of the fetal heart becomes the four-vessel view?

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Introduction: The three-vessel view, situated in the upper mediastinum, shows the position and the trajectory of the pulmonary trunk, the ductus arteriosus, the aorta, and to its right the superior vena cava. More cephalad, the view allows to check their position according to the trachea. The most frequent anomaly is the persistence of a left superior vena cava, present in 0.3-0.5% of the general population. In this case, we discover the presence of 4 vessels in this view. In the literature, the persistence of a left superior vena cava is associated in 87.5% of the cases with other cardiac malformations.

Material and methods: This is a retrospective study from August 2011 to September 2016. In our database, we found 34 patients with a fetus who had a left superior vena cava. All cases were examined by a pediatric cardiologist and an obstetrician specialized in ultrasound.

Results: 9 of the 34 cases analyzed (26 %) presented an isolated persistent left superior vena cava. 25 out of the 34 cases (74 %) were associated with other cardiac malformations. In 9 out of the 34 cases (26 %), the persistence of the left superior vena cava was associated with an extra-cardiac malformation such as malformations of the urinary tract, the central nervous system or a single umbilical artery. All had an associated cardiac malformation, except one case with ventriculomegaly due to a cerebral hemorrhage. In 35% of the cases, a caryotype was performed, motivated by the discovery of other cardiac or extra cardiac malformations. In half of the cases (6/12), caryotype was normal. For the other half, we discovered 2 cases of trisomy 21, 1 case of trisomy 16, 1 case of trisomy 9, 1 case of trisomy 13 and 1 case of syndrome of Opitz (duplication of the gene MID). In 5 cases with aneuploidy or complex cardiac malformation, a therapeutic abortion was performed.

Conclusion: As there is a strong association between the persistence of a left superior vena cava and other cardiac malformation, it is recommended that the patient be examined by a pediatric cardiologist. In our database, no case of 22q11 deletion syndrome was found. In case of isolated persistence of the left superior vena cava, carrying out a caryotype can be discussed.
Primary Domain: Medicine

**FM IV/40**

**Human Papillomavirus prevalence and associated risk factors in women with cervical pre-cancer and cancer in Switzerland at the beginning of the cantonal vaccination programmes: The CIN3+plus study**


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**Introduction:** The Swiss Federal Office of Public Health has recommended vaccination against human papillomavirus (HPV) to prevent cervical cancer since 2007. To monitor the future public health impact of vaccination, baseline population-based data are required. The objectives of this study were to determine the prevalence of HPV and examine associated risk factors in women with cervical intraepithelial neoplasia stage 3 or more severe lesions (CIN3+) in Switzerland.

**Materials and methods:** We conducted a cross-sectional study with women diagnosed with CIN3+ in Switzerland. Ten pathology institutes from six cantons and three language regions participated. We conducted HPV typing on formaldehyde fixed-paraffin embedded specimens from 2014 and 2015. Women enrolled in 2015 were asked to complete a questionnaire. We described frequencies of HPV types. We also compared demographic characteristics and socioeconomic status (according to the Swiss neighbourhood index of socioeconomic position, Swiss-SEP) in the CIN3+plus group with the Swiss National Cohort (SNC) in 2014 and compared risk factors for HPV infection with the Swiss Health Survey (SHS) in 2012.

**Results:** We included 768 biopsies from 767 women aged 17-81 years with CIN3+ in 2014 and 2015. Of these, 745 (97.0%) were positive for any HPV type, 5 (0.7%) were negative and 18 (2.3%) were not evaluable. Overall, 475/768 (61.8%) biopsies contained HPV 16 and/or 18 and 687 (89.5%) contained an oncogenic HPV type covered by the nonavalent HPV vaccine (16, 18, 31, 33, 45, 52, 58). In 2015, 273 women completed a questionnaire. Compared with the SNC, fewer women with CIN3+ were born in Switzerland (49.0 vs. 63.4%; p<0.001) and more were single (48.9 vs. 28.1%; p<0.001), but mean Swiss-Sep index was similar (64.6±10.8 vs. 65.2±10.9; p=0.135). Amongst women with CIN3+, higher proportions reported ≥2 sexual partners in the last 12 months (15.4% vs. 4.1%), smoking (38.5% vs. 22.0%) and hormonal contraception use in the last 12 months (35.5% vs. 22.4%) than women in the SHS.

**Conclusion:** This is the first study of HPV in women with CIN3+ covering all three language regions in Switzerland. Women with CIN3+ have levels of socioeconomic position that are similar to the Swiss general population but higher levels of some risk factors for HPV. Surveillance of HPV types in CIN3+ lesions is feasible and can be used to measure the future impact of HPV vaccination on clinical outcomes.
Self-sampling to improve cervical cancer screening coverage in Switzerland: A randomized controlled trial

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**Clinic:** 1) Gynecology Division, Obstetrics and Gynecology, Geneva University Hospitals, 2) Institute of Global Health - Faculty of Medicine, Geneva, 3) School of Health Sciences, University of Applied Sciences and Arts of Western Switzerland, Geneva, 4) Geneva Foundation for Medical Education and Research, Geneva

**Background:** Switzerland has an opportunistic cervical cancer screening program. About 30% of eligible women currently do not undergo screening. The aim of this study was to evaluate whether Self-sampling could increase cervical cancer screening attendance of women who do not attend regular screening in Switzerland.

**Material and Methods:** Participants were proactively recruited through flyers, newspaper and web-based advertisements in Geneva between September 2011 and November 2015. Women aged 25-69 years, who had not undergone cervical cancer screening in the last 3 years, were considered eligible. Pregnant women and those with a history of a previous total hysterectomy were excluded. Through a 1:1 ratio randomization, enrolled participants were invited to either undergo liquid-based cytology, which was performed by a health-care provider (control group, CG) or to take a vaginal self-sample for HPV-testing, which was mailed to their home (intervention group, IG). Self-sampling was performed by women at home and returned to the hospital in a pre-paid envelope.

**Results:** A total of 331 and 336 women were randomized in the CG and in the IG, respectively. The mean ± standard deviation age of participants was 42.0±10.8 and 42.3±10.9 in the CG and IG, respectively. Overall, 7.3% (95%CI: 4.9-10.6) women in the CG and 5.7% (95%CI: 3.6-8.7) women in the IG did not undergo the initial screening (p=0.400). There were 1.95% (95%CI: 0.8-4.3) women in the CG and 5.05% (95%CI: 3.1-8.1) women in the IG with a positive screen who did not attend triage and colposcopy (p=0.036).

**Conclusion:** When compared to cytology, Self-sampling does not increase screening participation for non- and under-screened women who are motivated to participate in a cervical cancer screening campaign in Switzerland. Compliance with further follow-up for women with a positive HPV test on the self-sample requires further attention.
The effect of watching live pelvic examinations on women’s anxiety: a randomized trial of an educational intervention

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4) Viviano M., 4) Tran P.L., 5) Vassilakos P., 4) Petignat P.
Clinic: 1) University of Geneva, Faculty of Medicine, Geneva, 2) University of Dschang, Department of Biomedical Sciences, Dschang, Cameroon, 3) Yaoundé University Hospital, Faculty of Medicine and Biomedical Sciences, Yaoundé, Cameroon, 4) Gynecology, Geneva University Hospitals, 5) Geneva Foundation for Medical Education and Research, Geneva

Introduction: Women undergoing pelvic examinations can experience a considerable amount of anxiety. This negative emotional response comes mainly from a poor understanding of their anatomy. The aim of this study is to compare the degree of anxiety experienced by women undergoing a pelvic examination with no visual support to that of women undergoing the same examination while watching it live on a digital screen.

Material and methods: This study took place in September 2016 at the Hospital of the District Of Dschang, Cameroon. All women aged 30-49 years old, participating in the 1-year follow-up of a cervical cancer screening campaign, HPV-positive and referred to a pelvic examination with visual inspection with acetic acid and Lugol’s iodine (VIA/VILI) were invited to take part in this study. Exclusion criteria were an inability to comply with the study protocol, pregnancy and a history of total hysterectomy. Enrolled participants were randomized with a 1:1 ratio in two groups. Women in the control group (CG) underwent the routine pelvic examination with no visual support, while women in the intervention group (IG) underwent their examination while watching it live on a digital screen. Their anxiety was measured by asking them to complete the Spielberg’s State Anxiety Inventory (STAI) both prior to and immediately after the procedure.

Results: A total of 118 women were included in the study. Their mean ± SD age was 39.1 ± 5.2 years. The STAI score was reduced of a mean of 4.2 ± 9.0 and 7.9 ± 14.3 points in the CG and in the IG, respectively (p=0.103). Questions evoking the women’s emotional state, such as “I feel secure” and “I feel strained”, obtained a significantly different score reduction among women in the two groups (0.1 ± 1.1 in the CG and 0.7 ± 1.2 in the IG, p=0.007 and 0.2 ± 0.9 in the CG and 0.7 ± 1.1 in the IG, p=0.013 for the two questions, respectively).

Conclusion: Watching live pelvic examination was not globally associated with a significant reduction of anxiety. When asked to report their emotional state, women who watched their examination on a digital screen were less anxious than women who underwent the standard pelvic examination. Moreover, women in both groups showed an active interest in discovering their anatomy.
Aromatase inhibitor maintenance therapy in high grade estrogen receptor positive (ER+) advanced ovarian cancer may delay first recurrence

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**Introduction:** Ovarian cancer (OC) is mostly diagnosed as advanced high grade serous disease with a five years survival rate of only 20%. Maintenance therapy after 1st line chemotherapy is increasingly used, particularly with substances as Bevacizumab or PARP inhibitors. However, the effect of endocrine treatment in breast cancer but also in ER+ relapsed gynecological cancers has been shown. Also in low grade OC, data are highly supportive of anti-hormonal treatment. In a previous study of ours, also high grade serous cancers express high amounts of estrogen receptor (ER). The aim of this study was to analyze whether a maintenance anti-hormonal therapy in advanced OC adds a benefit in relation to the time of recurrence.

**Methods:** All newly diagnosed high grade FIGO III/IV ovarian cancer cases at the University Hospital Basel were assessed prospectively for ER expression using immunohistochemistry. Patients with positive ER status (> 10%) were treated as maintenance therapy with Letrozol 2.5mg 1x/d or not in an off-label fashion. Treatment was discontinued in terms of toxicity or disease progression defined by Rustin's criteria. Progression free survival was recorded and analyzed according to Kaplan-Meier. Patients with macroscopic residual disease post surgery receiving Bevacizumab maintenance treatment were also included.

**Results:** We identified 51 patients with high grade serous ovarian cancer FIGO III/IV expressing ER. Hereby, 24 patients received and 27 patients did not receive Letrozol after adjuvant chemotherapy. Time to progression ranged from 4 to 121 months. The use of Letrozol was associated with a significant prolonged progression free interval. After 12 and 24 months, only 65% and 46% of women in the control group versus 84% and 74% in the Letrozol group were recurrence free (p=0.02). Within the subgroup of patients with residual disease treated with Bevacizumab a similar effect was seen with 41% of patients progression free after 12 months vs 89% when taking Letrozol in addition to Bevacizumab.

**Conclusion:** The use of Letrozol as a maintenance therapy after the primary treatment in high grade estrogen positive advanced stage serous OC patients was associated with a longer recurrence free interval in our cohort. These findings warrant a randomized controlled trial comparing all existing maintenance regimen against each other as this might have a major influence on cost development in ovarian cancer treatment.
Fibrin sealant following inguinofemoral lymphadenectomy in vulvar cancer increases the amount of lymphoceles and should not be recommended

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Introduction: Lymphoceles are frequent and morbidity-related complications of inguinofemoral lymph node dissection (IFLN). Recent studies on thrombin-fibrin patches as Tachosil® revealed their effectiveness in reduction of lymphocele after axillary and pelvic lymphadenectomy. Here we analysed whether Tachosil® diminishes the amount of lymph collection after IFLN for vulvar cancer.

Material and methods: This is a prospective case series of vulvar cancer patients who underwent bilateral IFLN between 11/2014 and 06/2016 at the University Hospital for Women in Basel. A Tachosil® patch was placed in one groin only, the side being selected randomly by the attending theatre nurse. Postoperative inguinal fluid collection was documented by ultrasound, clinical examination and/or puncture every other day in-house and in regular or emergency follow-up consultations after discharge from hospital. Time courses of lymphocele between the groin containing Tachosil® (ingT) and the groin without the sealant (ing0) were compared using a linear mixed-effects regression model with day and fluid collection as predictors.

Results: In total, 11 patients with an average age of 72 years (range 62-83) were included. Except for one patient with a melanoma, all other patients had a squamous cell carcinoma, most commonly FIGO stage IB (45.5%, n=5). The number of lymph nodes removed (median ingT: 6 vs. ing0: 6) and the number of positive nodes (mean ingT: 0.2 vs. ing0: 0.6) did not differ between both sides. Postoperative course was documented for a mean of 37 days (12-77). In ingT significantly larger lymphoceles were detected over time than in ing0 (p=0.001). Median amount of documented fluid in ingT was 20ml (0-300) versus 5ml (0-535) in ing0. Puncture was required in 6 patients, 3 of them on both groins, 2 on ingT only. Oral antibiotic therapy was administered in 3 patients.

Conclusions: In our case series of 11 patients undergoing bilateral IFLN for vulvar cancer, significantly more lymph collection was detected on the side where a fibrin-thrombin patch (Tachosil®) was placed. This finding represents a higher risk for morbidity and reduced quality of life, so that it should not be recommended at this point in time. To further investigate this controversial finding larger clinical trials with vulvar cancer patients are needed.
PreImplantation Factor (PIF*) prevents fetal loss by modulating LPS induced inflammatory response


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Introduction: Maternal control of inflammation is essential during pregnancy and an exaggerated response is one of the underlying causes of fetal loss. Inflammatory response is mediated by multiple factors and Toll-like receptors (TLRs) are central. Activation of TLRs results in NALP-3 mediated assembly of apoptosis-associated speck-like protein containing a CARD (ASC) and caspase-1 into the inflammasome and production of pro-inflammatory cytokines such as IL-1β and IL-18. Given that preventing measures are lacking, we investigated PreImplantation Factor (PIF) as therapeutic option as PIF modulates inflammation in pregnancy. Additionally, PIF protects against multiple immune disorders.

Methods: The experimental protocol included 4 groups (n=18 pregnant animals each group). Two groups of pregnant mice were treated with PIF analog (synthetic PIF: sPIF 1µg/g mouse /day) or with phosphate buffered solution, PBS (200 µl, control group) using micro-osmotic pumps from day 0 until day 15 of gestation. Additionally, on day 7 of gestation, each of these two groups was injected, intra-peritoneum, with LPS (0.1 µg/g mouse/200 µl PBS) or PBS (200 µl). Thus, following 4 groups were investigated (Control, sPIF, LPS, and LPS+sPIF). All mice were sacrificed on day 15 of pregnancy. We evaluated the number of viable fetuses and measured fetal and placental weights. We evaluated the inflammatory response in placental tissue using western blots and measured cytokines in placentae and serum.

Results: sPIF reduced fetal loss and increased embryo weight significantly. We detected increased PIF expression in the placentae after LPS insult. The LPS induced serum and placenta pro-inflammatory cytokines were abolished by sPIF treatment and importantly sPIF modulated key members of inflammasome complex NALP-3, ASC, and caspase-1 as well.

Conclusion: Our results indicate that sPIF protects against LPS induced fetal loss partially by modulation of the inflammasome complex. Given that sPIF is currently tested in autoimmune diseases of non-pregnant subjects (clinicaltrials.gov, NCT02239562), therapeutic approach during pregnancy can be envisioned.
Sonographic cerebral ventricle measurements before and after fetal myelomeningocele repair – prediction of shunting


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Introduction: Ultrasound plays an important role in the diagnosis of fetal myelomeningocele (fMMC) and for pregnancy follow up after fMMC repair. This information supports the counselling of patients. Little is known about the further development of the fetal cerebral ventricles after fMMC repair and the need of shunting during the first year of life. The aim of the study was to find a sonographic cut-off for the size of the fetal cerebral ventricles predicting shunting.

Patients and Methods: Between 2010 and January 2017, 49 patients underwent fMMC repair at the University Hospital in Zurich. We retrospectively analyzed all sonographic measurements of the fetal lateral ventricles before and after fMMC repair. Our hypothesis was that a fetal lateral ventricle <10mm before fMMC repair and <15mm before Caesarean section (C-section) predicted no need of shunting during the first year of life. Thirty children were ≥1 year of age by January 2017 and were included in our study. Group 1 received no shunt, but group 2 did. Data is presented as mean+/-SD. A t-test or an independent Mann-Whitney U test were applied where appropriate. Statistical significance was indicated at p <0.05.

Results: Fourteen of the 30 children (46%) received a shunt. The two groups did not differ in the baseline characteristics such as gestational age (GA) at surgery (gr.1: 24.6+/-.9 vs gr.2: 24.6+/-.1), GA at delivery (gr.1: 35+/-.1 vs gr.2: 36.1+/-.2) or birthweight (gr.1: 2509+/-.591g vs gr.2: 2841+/-.397g). The fetal ventricle size at evaluation and before C-section was significantly different between the non-shunted and shunted group (ad evaluation: gr.1: 10.3+/-.2.3mm vs. gr.2: 13.4+/-.5mm, p=0.001; before C-section: gr.1: 13.4+/-.5mm vs. gr.2: 23.7+/-.8mm; p<0.001). The progression of the fetal ventricle size from evaluation till C-section showed same results (gr.1: 4.2+/-.5.4mm vs gr.2: 11.4+/-.8.7; p< 0.01). None of the fetuses with a ventricle size <10mm at evaluation for fMMC repair or <15mm before C-section received a shunt during the first year of life.

Conclusion: The presented data underlines the crucial role of ultrasound during pregnancy for fetal diagnosis and observation and therefore is very supportive in patient counseling before and after fMMC repair. Cerebral ventricular size <10mm before fMMC repair and <15mm before birth was confirmed to be the cut-off for no need of shunt postnatally during the first year of life.
The Bernese gestational diabetes (GDM) project: Does pre-pregnancy BMI weight gain in the first half of the pregnancy influence the development of GDM?

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**Introduction:** The prevalence of gestational diabetes mellitus (GDM) is increasing worldwide and pre-existing metabolic disorders such as prediabetes or overweight/obesity are predisposing factors. However, not all women with such underlying problems develop GDM. The aim of the following study was to investigate if weight gain and pre-pregnancy BMI contributes negatively in groups stratified by first trimester glycosylate haemoglobin (HbA1c).

**Material and Methods:** Prospectively recruited pregnant women who had an HbA1c test at ≤14 weeks of gestation were included. Pregestational diabetes mellitus or HbA1c values ≥6.5% were excluded. Two groups were defined according to HbA1c: group 1 HbA1c value <5.7%, and group 2 with HbA1c between 5.7-6.4%. In both groups pre-pregnancy body weight, BMI as well as weight gain in g/week until GDM screening were compared. Continuous variables were analysed by Mann-Whitney U-test. Statistical significance was considered when p-value <0.05.

**Results:** During the study period 668 women met inclusion criteria. Of those 636 were included in group 1, and 32 (4.7%) in group 2. The prevalence of GDM in the entire study population was 98/668 (14.6%). Group 2 had a higher pre-pregnancy BMI (group 2: 26.8±6.4kg/m² vs group 1: 23.3±4.3kg/m²; p=0.02). Women who later developed GDM had a significant higher BMI in group 1 (GDM 25.57±4.9kg/m² vs. 22.9±4.0kg/m², p=0.0004) whereas BMI did not differ in group 2 (group 2: GDM 29.20±7.9kg/m² vs. 25±4.7kg/m², p=0.34). The weight gain until GDM screening between those with and without GDM did not differ (GDM: 306±168 g/week vs. nGDM: 340±156 g/week; p=0.31). Similarly, no difference in weight gain was found analysing group 1 and 2 (group 1 GDM: 314±157g/week vs. nGDM 342±156 g/week; p=0.35 and group 2 GDM: 267±257g/week vs. nGDM 267±138g/week; p=0.66).

**Conclusion:** We showed that in women with prediabetes the pre-pregnancy BMI does not differ between those with and without GDM. On the contrary, in group 1 increased pre-pregnancy BMI seems to distinguish between women who develop GDM later on. Interestingly, weight gain before GDM diagnosis seems not to play an important role in GDM prevalence independent of first trimester HbA1c.
Mild iodine deficiency in Swiss pregnant women: A cross-sectional national study

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Introduction: Iodized salt is the major dietary source of iodine in the Swiss population. The household use remains high at 80%, but use of iodized salt by the Swiss food industry is uncertain. In response to falling iodine intakes in vulnerable population groups over the last decade, the iodine concentration in salt was increased from 20 to 25 mg/kg in January 2014. We assessed the iodine status and thyroid function in pregnant women with the aim to evaluate the impact of this increase.

Materials and methods: We conducted a cross-sectional national study in pregnant women recruited through gynecologist and obstetric clinics from April 2015 to January 2016. We collected spot urine samples for determination of urinary iodine concentration (UIC) and dried blood spot (DBS) samples for assessment of thyroid function (DBS-TSH, DBS-tT4, DBS-Tg).

Results: A total sample of 375 pregnant women from 18 clinics participated. The median UIC (n=359) was 140 µg/L (IQR: 65, 313 µg/L), below the WHO threshold of 150 µg/L indicating iodine sufficiency, but did not statistically differ compared to 2009 (162 µg/L, IQR: 81, 302, n=648, P=0.071). Eighty-five percent of the women reported using iodized salt in their homes. Forty-one percent were taking iodine containing prenatal supplements (150 to 220 µg iodine/day): the median UIC did not differ between users and non-users (P=0.589). The median DBS-TSH concentration was 0.8 mU/L (IQR: 0.6, 1.1 mU/L) and the geometric mean DBS-T4 concentration was 132.5 nmol/L (SD: 33.7 nmol/L). The prevalence of subclinical hypothyroidism, subclinical hyperthyroidism and isolated hypothyroxinaemia was 0.9%, 0% and 4.8%, respectively. The median DBS-Tg concentration was 23.8 µg/L (IQR: 15.5, 35.3 µg/L) and the prevalence of elevated DBS-Tg was 12.7% (reference range: 0.3 to 43.5 µg/L).

Conclusion: In Swiss pregnant women, iodine intake is borderline low and DBS-Tg concentrations are high, which may reflect an increase in thyroid activity in response to mild iodine deficiency. The increase of 5 mg iodine/kg salt was not sufficient to improve the overall iodine status in this group with high dietary iodine requirements. The overall coverage of iodized salt, particularly in processed foods, should be strengthened to ensure iodine sufficiency in the Swiss population at large. Iodine containing prenatal dietary supplements may be beneficial during pregnancy, but a recommendation for targeted supplementation is not warranted.
How to explore variation of fetal aortic arch?

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**Introduction:** The three vessels trachea view allows a good visualization of the superior vena cava, the transverse aortic arch, the pulmonary arch and ductus arteriosus. The relationship of the aortic arch and trachea is emphasized through this view. The most common type of aortic arch anomaly is a left aortic arch with an aberrant right subclavian artery, followed by a right aortic arch anomaly with an aberrant left subclavian artery, a right aortic arch anomaly with mirror image branching, and a double aortic arch anomaly. Principal objective of the study is to discuss prenatal signs leading to diagnosis of right aortic arch (RAA) variation including double aortic arch (DAA), during cardiac screening examination. Three recommended views are detailed (3 vessels, 3 vessels with trachea view and 4 chambers view) for recognition of different variations of aortic arch and evaluation of risk for trachea compression.

**Material and Methods:** Twenty-two cases of RAA and DAA diagnosed prenatally in high-risk patients between 2012 and 2017 in CHUV, Lausanne, are retrospectively analyzed.

**Results:** There were 22 RAA; 17 have vascular ring including 13 RAA with aberrant left subclavian artery and 4 DAA. Five cases are isolated RAA. There were 20 live births, 1 termination of pregnancy and 1 stillbirth. For DAA cases, right aortic arch was dominant in 3 cases. No 22q11 deletion syndrome was diagnosed in this study. A case of trisomy 9 was detected in a fetus with RAA, persistent left superior vena cava, abnormal rings and oligohydramnios.

**Conclusion:** RAA and DAA share a common embryological origin and belong to the spectrum of conotruncal malformations. Fetal aortic arch anomalies refer to a variety of congenital abnormalities that are related to the position or abnormal branching of the aortic arch. Such anomalies are present in 1 to 2% of the general population but can lead to diagnose others congenital heart malformation up to half of the cases. In these situations, a concurrent cardiac anomaly and right ductus arteriosus can be associated with 22q1.1 deletion status on postnatal cohort.
After OASIS: Is the risk for another high degree tear in a subsequent pregnancy increased?

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Introduction: Patients after 3rd or 4th degree perineal tears (Obstetric Anal Sphincter Injuries, OASIS) are at increased risk for faecal incontinence. Recommendations for subsequent deliveries involve the patients’ symptoms, endoanal ultrasound findings and patients’ preference. The aim of the current study was to determine the risk of recurrent OASIS in subsequent deliveries after OASIS.

Patients and Methods: All primiparous patients who were referred from surrounding hospitals or who had delivered in the Frauenklinik and who had suffered from 3rd or 4th degree perineal tears according to ICS-IUGA classification were asked to participate in this study. Peripartal and intrapartal data were obtained after their first and subsequent delivery, the Wexner score determining stool incontinence and Parks classification assessed as well as an endoanal ultrasound performed using the 355° probe (BK, Scandinavia). Primary outcome was the occurrence of a recurrent OASIS, secondary outcomes were Wexner score and ultrasound findings (sphincter gap > 1 quarter).

Results: One hundred and twenty three patients could be included in this study. Mean age was 33.3 years (19-45), mean BMI was 26 kg/m2 (24-32), mean duration of first stage of labour 7.5 hours (1.5-13.5) and mean duration of second stage was 1.7 hours (40 minutes-4.7 hours). Mean birth weight was 3660 grams (2880-4670 grams). N= 62 had a tear classified as IIIa, n=43 a IIIb, n=14 a IIIc and n=4 a fourth degree tear. 110 women delivered vaginally after the subsequent pregnancy and 13 by Cesaerean section. Of those, six women (5.4%) suffered from a higher degree tear at the subsequent delivery whereof five underwent assisted vaginal delivery (ventouse n=3; forceps n=2). All of them had a IIIc or IV degree tear. Wexner score deteriorated from initially a median of 5 (0-17) to 8 (0-18; p<0.001). On endoanal ultrasound, after the first delivery 24 patients showed a significant gap of the endoanal sphincters and after subsequent delivery 32 patients.

Conclusion: The risk of recurrent 3rd or 4th degree sphincter tear after previous OASIS is 5.4% in this large prospective study and is not elevated compared to patients without previous OASIS. Women who require assisted vaginal delivery after a IIIc or IV degree tear appear to be at particular risk. Wexner score and herewith stool incontinence symptoms may deteriorate after subsequent delivery.
Is there an association between catamenial pneumothorax and diaphragmatic endometriosis?


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Introduction: Catamenial pneumothorax is defined as spontaneous, recurrent pneumothorax in correlation with the perimenstrual period. It is considered to be a rare entity; however, in newer studies up to 30% of all spontaneous pneumothorax in young women are defined as catamenial. These pneumothoraces are most often right sided (85-95%), similar to endometriosis of the diaphragm. The aetiopathogenesis of catamenial pneumothorax is still unclear. One theory is that it stems from the transdiaphragmatic passage of air from the genital tract through diaphragmatic perforations caused by endometrial implants. The predominance of one side of endometriosis of the diaphragm and catamenial pneumothorax reinforces this hypothesis. In this study, we searched for a correlation between diaphragmatic endometriosis and catamenial pneumothorax.

Material and methods: Patients from our prospectively collected database of endometriosis patients were analyzed for the presence of diaphragmatic endometriosis and any form of pneumothorax. In addition, other locations of endometriosis found were analyzed.

Results: We identified endometriosis of the diaphragm in a total of 29 (2.4%) patients out of 1197 patients with histologically proven endometriosis. Consistent with the literature, the right diaphragmatic side was more often affected, in 83% of the patients (24/29). In these 29 patients, 69% had an advanced stage of endometriosis (rAFS III° or IV°) and there was a correlation with the left lower pelvis being affected. Eight (0.7%) patients with catamenial pneumothorax were identified. The pneumothorax developed also predominantly on the right side. However, subdiaphragmatic endometriosis was not documented in any of the cases of catamenial pneumothorax, nor was a pneumothorax found in the group of patients with diaphragmatic endometriosis. In the group of catamenial pneumothorax, only 2 out of 8 patients had severe endometriosis. Two women never had pelvic surgery due to lack of symptoms or due to pathological findings. Two patients had a pneumothorax under hormonal treatment (dienogest and GnRH Analoga respectively).

Conclusion: Catamenial pneumothorax and endometriosis of the diaphragm are predominantly at the right side, suggesting a correlation between their appearances. In our study, none of the patients with catamenial pneumothorax had a diaphragmatic endometriosis, and vice versa. This suggests that the theory of air passage due to endometriotic lesions of the diaphragm is not likely to be the only aetiopathogenesis.
Feasibility of breast MRI for breast cancer follow up after sentinel procedure with superparamagnetic iron oxide

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Introduction: Sentinel lymph node biopsy is the standard technique used in patients with early breast cancer without clinical signs of axillary lymph node metastases. The current standard for detection of axillary sentinel lymph nodes is the injection of a radioactive 99 Technetium tracer either alone or combined with a blue dye. As an alternative to this method, a magnetometer detecting the superparamagnetic tracer Sienna+, an iron oxide nanocolloid, can be applied for detection of sentinel lymph nodes. A potential problem of this tracer is that it might impair future breast MRIs used in the post-therapeutic follow-up. This is the first study to investigate the long term detectability of Sienna+ in healthy breast tissue. The goal of this study was to determine whether and to which degree interpretation of breast MRI is impaired by Sienna+ tracer residues in healthy breast tissue after a sentinel procedure using this tracer.

Methods: In this single center, prospective observational study 34 patients who received the Sienna+ tracer for marking the sentinel node during a former clinical trial were invited to undergo a follow-up breast MRI. Native breast MR images were obtained to search for residues of the tracer. The breast MRIs were evaluated by two independent breast radiologists. Primary endpoint was detection of Sienna+ tracer in the breast, secondary endpoint was degree of impairment of the MR imaging as follows: breast imaging possible without restrictions, impaired or impossible.

Results: 24 of the 34 invited patients (71%) took part in this study. The mean age at MRI was 59.6 years (45.3–81.1 years). The mean time since injection of Sienna+ was 42 months (40.6–45.4 months). In one of the patients image interpretation was not possible due to breathing artefacts. Of the remaining 23 patients, in a total of 12 patients (52.2%) rests of Sienna+ tracer were found in the breast. In 2 of these patients (8.7%), imaging was impossible due to artefacts, in 10 patients (43.5%) diagnostic imaging was impaired. Only in 11 patients (47.8%) no impairment of imaging was found.

Conclusion: Sienna+ can be found in breast MRI even with a mean follow-up time of 42 months. It does partially impair breast imaging with MRI. It remains unclear whether MR imaging is recommendable for breast cancer follow up in patients with Sienna+ lymph node marking. Further research is needed to shed light on the time dependency of tracer detectability.
The ENZIAN Score as a preoperative MRI-based classification instrument in deep infiltrating endometriosis

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Introduction: The diagnostic and therapeutic gold standard in patients with deep infiltrating endometriosis is laparoscopy. Nevertheless, MRI has gained importance as a preoperative diagnostic instrument for this disease. As a noninvasive procedure, the use of MRI for this purpose could yield a marked improvement and benefit for patients and doctors. This study aims to compare preoperative MRI with intraoperative findings in patients with DIE by means of the ENZIAN score.

Material and Methods: This study includes 65 patients treated for DIE between 2012 and 2016 at the University hospital of Zurich and the Cantonal hospital of Schaffhausen. Inclusion criteria were DIE verified intraoperatively or by biopsy, preoperative MRI as well as intraoperative imaging. The preoperative MRI findings were compared with the intraoperative results by means of the ENZIAN score and the rASRM score. In addition, the various MRI sequences were evaluated for their diagnostic validity based on a Likert scale. This study was approved prior to its initiation by the local ethic commission and the consents of the participants were obtained.

Results: The sensitivity (and negative predictive value) of the MRI compared to the intraoperative findings by means of the ENZIAN score were 95.2% (91.7%), 78.4% (56%), 91.4% (89.7%), 57.1% (94.1%), 85.7% (98.3%), and 73.3% (92.2%) for lesions in the vagina/rectovaginal space, uterosacral ligaments, rectum/sigmoid colon, myometrium, bladder, and intestine, respectively. As already shown in preceding studies, the rASRM score was confirmed to concur poorly, especially in cases of severe DIE. T2 axial and sagittal MRI sequences in combination with an additional T1 sequence were sufficient, additional sequences did not exhibit any further diagnostic value.

Conclusion: MRI is a good and promising diagnostic instrument for DIE, enabling a better planning of the surgical procedure for patients and physicians. The ENZIAN score detected by the MRI imaging accords well with the intraoperative findings. However, considerable difficulty and a poorer comparability is resulting from the variation of the sequences used in the detection of this multifaceted disease. Therefore, a standardization of MRI protocols used in the detection of endometriosis will be a crucial step towards increased diagnostic validity and the ENZIAN score may be used as an anatomical land map and valuable communication tool between radiologists and gynecologists.
Pelvic floor muscle activity assessment by a new microsystem measuring intravaginal pressure during a one hour ICS pad test.

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**Aim of the study:** to describe a new technique for assessment of pelvic floor muscle activity during a one hour ICS pad test in women investigated for urinary incontinence using a microsystem device able to record continuously intra-vaginal pressures variations.

**Material and methods:** preliminary results obtained in three women investigated for urinary incontinence, without any utero-vaginal prolapse: pelvic floor muscle contractions were continuously recorded during walking, coughing and running using a new microsystem device, placed into the vagina. The new « wellborn 2 » microsystem is a small (5/11 mm) pear-shaped device connected through a cable to a specific box carried at the waist. At its tip, a membrane is able to undergo deformation resulting from changes in intravaginal pressures which modifies electrical resistance inside a so-called Wheatstone bridge. A microcontroller quantifies these electrical modifications and the data calculated (ten pressures recordings per second) are stored into this box. Once the pressure recording is achieved, the box is connected to a PC including a specific software able to transfer the data to an Excel database. Another specifically developed software can calculate the different pressure parameters (i.e. intensity, duration and area under pressure curves) A temperature sensor allows to confirm the « inside body right position » of the microsystem. Examples of intra-vaginal pressure recordings using wellborn 2 microsystem. The woman is walking: each pace induces intravaginal pressures between 10 and 13 mmHg; coughing induces intravaginal pressures raise as high as 200 mm Hg (10 seconds recordings with 100 pressures measurements). This women is walking and stops to walk for coughing easier: intravaginal pressures as high as 122 mmHg are recorded with a pelvic floor contraction with the last cough for blocking urine escape (10 seconds recordings with 100 pressures measurements).

**Conclusions:** the wellborn 2 microsystem is able to record intravaginal pressure and to bring us novel information about pelvic floor activity during a pad test. This device will be used in a larger cohort of patients investigated for pelvic floor dysfunction in order to better understand pelvic floor activity in various situations and correlated with patient’s history and clinical parameters.
Poster Presentation and Exhibition

P I – P VI = Poster Presentation and Exhibition
Role of uric acid and GLUT9 in pregnancy on neonatal development

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Introduction: High maternal uric acid serum levels is a common feature of preeclampsia. The regulation of the placental uric acid transport system and its major uric acid transporter, glucose transporter 9 (GLUT9) are not fully understood yet. We hypothesized that the lack of GLUT9 in the placenta leads to exposure of high uric acid levels in the fetus. Using a systemic GLUT9 knockout mice model we aim to understand the effect of fetal hyperuricemia on the growth of the pups and the development of their internal organs.

Methods: Six-week-old female GLUT9(+/+) mice, maintained on regular chow diet, are mated with GLUT9(+/+) male mice. After the mating the diet is changed to regular chow diet plus inosine for the entire pregnancy period (21 days), which will lead to hyperuricemia in GLUT9(-/-) fetal mice, but not in the maternal mice. Starting from day 7 after birth the pups are daily weighted until day 70 after birth. At day 70 the pups are sacrificed and after perfusion organs (pancreas, liver and kidney) are weighted and used for tissue analysis to identify possible abnormal organ development.

Results: First of all we saw a significant difference in body weight between neonatal GLUT9(+/+) and GLUT9(-/-) female mice from day 12 till day 35. Neonatal GLUT9(-/-) female mice were smaller than GLUT9(+/+) female mice. Then when we compared kidneys from neonatal GLUT9(+/+) and GLUT9(-/-) female mice, we saw a decreased in size of 25±0.15% (n=7; p=0.007) in the left kidney and of 35±0.21% (n=7; p=0.011) in the right one. Hematoxylin & eosin staining on kidney paraffin sections shows that the morphology of the kidney of GLUT9(+/+) mice is normal with normal kidney tubules with viable epithelial cells; while the morphology of the kidney of GLUT9(-/-) mice is typical of necrotic tissue. These kidneys are characterised by necrosis of epithelial cells. The GLUT9 null mice show a 3-4 fold higher plasma uric acid concentration compared to the wild type; heterozygous litter mates which have a similar uric acid plasma concentration than the mother.

Conclusions: Hyperuricemia may lead to impaired development of neonatal GLUT9(-/-) mice be as we have observed. The understanding of the mechanism behind might underlie the possible link between hyperuricemia and altered placental function to metabolic fetal programming. The final goal of this study is to assess GLUT9 as a possible target to develop novel drugs to cure or prevent hyperuremic-associated (gestational) diseases.
**Vitamin D in mother and child – differences by skin type and hospital**

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**Introduction:** Vitamin D deficiency in pregnancy has negative clinical consequences for mother and child, such as association with glucose intolerance, and has been shown to be distributed differently in certain ethnic groups. The goal in this study was therefore to evaluate the prevalence of vitamin D deficiency (< 20 µg/l) in umbilical cord blood and maternal blood at delivery. Women of darker skin color are expected to have lower vitamin D level than women with a lighter skin.

**Material and methods:** Women in the University Hospital Zurich, Ospedale Regionale di Bellinzona e Valli and Spital Oberengadin were recruited for blood sampling between September 2014 and June 2016. Maternal blood was taken within days of delivery and post partum umbilical cord blood was taken for testing 25(OH) vitamin D. Skin type was self-reported on the Fitzpatrick Scale (5-point scale: I – III vs. IV-V). The Fitzpatrick Scale includes appearance and reaction to sun exposure. In a multivariate logistic regression analysis on vitamin D deficiency, age, week of pregnancy, skin type, country of origin, parity, BMI before pregnancy, level of education, smoking, sun protection, time spent outdoors, fish consumption, supplement intake, weight gain, season and hospital were tested as independent variables.

**Results:** 305 women agreed to participate and the median week of delivery was 39 weeks. The prevalence of 25(OH) vitamin D deficiency in all mothers was 53% and 49% in umbilical cord blood with a high correlation between mother and cord blood (Spearman R=0.84). Prevalence of vitamin D deficiency did not differ statistically significant by skin type: 53% of women with light skin type (n=265) were deficient and 62% of women with dark skin type (n=34). As of region, Samedan had the highest prevalence of vitamin D deficiency with 68% vs. 53% in Zurich and 33% in Bellinzona. In the regression analysis, migrants were significantly more likely to be vitamin-D deficient than Swiss natives and vitamin D supplementation reduced deficiency significantly. Season and hospital showed also statistically significant differences.

**Conclusion:** The prevalence of vitamin D deficiency was lower in umbilical cord blood than in mothers at term, as well as in areas of higher sun exposure. We observed a difference in prevalence of deficiency depending on maternal origin emphasizing a consequent screening and supplementation program, specifically for mothers with migration background and in higher altitude.
Cut-off values of angiogenic and anti-angiogenic biomarkers in the assessment of preeclampsia in a high-risk population

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Circulating differences in the anti-angiogenic factor, soluble vascular endothelial growth factor receptor-1 (sFlt-1), and the pro-angiogenic placental growth factor (PIGF) seem to accurately predict preeclampsia (PE). The objective of this study was to investigate the recently proposed cut-off values of the sFlt-1:PIGF ratio in a high risk population.

Sites and dates: A prospective 2 centres cohort study was performed at the University Hospital of Basel and Geneva after approval by the local CECs from 1/2012 until 3/2015.

Population and diagnostic measures: Pregnant women (singleton pregnancies) at high risk to develop PE were asked to participate. The high risk group was followed regularly with clinical examinations and blood drawings for blinded biomarker analysis every 2-4 weeks. Additionally, women who had symptoms suspicious of PE (high blood pressure and/or proteinuria) were controlled from 1 to 7 days dependent on clinical condition until delivery. Only blood samples between 20+0-36+6 weeks of gestation (WOG) were included for analysis.

Primary outcome: Predicted absence (sFlt-1:PIGF ratio < 38) and presence of PE (ratio of > 85 in < 34 WOG or > 110 in > 35 WOG) within 1 and 4 week(s). Our statistics (tables on the poster will be shown) show that the proposed cut-off value of 38 or lower can be used to rule out PE within 1 (sensitivity of 96%) and 4 week(s) (sensitivity of 97%) in a high risk population.
In vitro effect of Bryophyllum pinnatum press juice combined with atosiban on myometrium contractility

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Preterm delivery is the most important determinant of infant morbidity and mortality. Tocolytic therapy has proven to prolong pregnancy, but patients react differently and some tocolytic agents, like atosiban, are expensive. The herbal medicine Bryophyllum pinnatum has been used as a low-price, well-tolerated, tocolytic agent in anthroposophic medicine and, recently, in the conventional setting alone or as an add-on medication. The influence of B. pinnatum on the effect of atosiban has not yet been investigated. In the present in vitro study, we investigate the effects of B. pinnatum leaf press juice and atosiban, used alone and in combination, on the contractility of myometrium tissue obtained from pregnant women.

Myometrial biopsies were collected during elective caesareans. From each biopsy, four strips of 15x2x1 mm3 were trimmed. Strips were placed under tension in a myograph chamber and spontaneous contractions were recorded. After a 30 min period of regular contractions, B. pinnatum (0.08% or 0.25%), atosiban (0.53 or 0.27 µg/mL), or the combination of both was added to the chamber. After a washout period, vitality of strips was controlled. Area under the curve (AUC) of contractions was determined for each period (30 min). Contractility after addition of the test substances was expressed as percentage of the baseline contractility (before addition of test substances).

Results show that all test substances inhibited myometrium contractility, i.e. they led to significantly lower AUCs compared to control (Krebs solution, in all cases p<0.05). When B. pinnatum (0.08%) and atosiban (0.53 µg/mL) were tested, their combination lowered contractions by 47.9 ± 14.8% (n=16), which was not significantly different from atosiban activity alone (53.7 ± 20.8%; n=17). However, preliminary data (n=3) obtained from the combination of B. pinnatum and atosiban at 0.25% and 0.27 µg/mL respectively, show that at these concentrations, B. pinnatum decreased contractions by 31.4 ± 10.4%, atosiban by 17.9 ± 6.2%, whereas the combination lowered contractions by 63.8 ± 12.1%. This effect was significantly higher than that from atosiban alone (p<0.05).

In conclusion, B. pinnatum and atosiban, alone or combined, exert inhibitory effects on spontaneous myometrial contractions. Depending on the concentrations, B. pinnatum can enhance the tocolytic effect of atosiban in vitro. Concomitant use of B. pinnatum might enable the use of lower atosiban doses in the clinical practice.
Determinants of unintended pregnancies among women in Ambanja district, Madagascar

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Introduction: Unintended pregnancies have been associated with negative health consequences including the risks of unsafe pregnancy termination, poor maternal and child health. The objective of the study was to estimate and describe determinants of unintended pregnancies among women in their first year postpartum.

Material and methods: We used secondary data of a prospective unmatched case-control study about maternity service utilization in Ambanja (Madagascar) and analysed the percentage of unintended pregnancies among 287 women aged 14-45 years. The dependent variable was coded as a two-outcome variable and defined as either intended pregnancy or unintended pregnancy (either mistimed or not wanted at all). The analysis was restricted to the last-born child. We considered various independent variables such as maternal education, working status, age, marital status, parity, history of abortion, women's decision-making autonomy, and household size. Bivariate and multivariate analysis was used and a p-value <0.05 was considered statistically significant.

Results: The study found that 36.9% of the women referred to their last pregnancy as unintended, either mistimed (23.69%) or not wanted at all (13.24%). In the regression model unintended pregnancies were significantly more frequent in single women (Odds Ratio (OR)=3.82, 95% CI=2.05-7.09). Women living in households with more than 5 members (OR=2.07, 95% CI: 1.04-4.12) and mothers with five or more pregnancies (OR=3.40, 95% CI: 1.36-8.50) had a significantly increased likelihood of the pregnancy being unintended. No significant association was found in respect to women's education, age or employment status. Importantly, nearly all women (98.95%) attended antenatal care (ANC) during their last pregnancy with an average first visit in the 5th month (Mean=4.05±1.36). Furthermore, 77% of women had a health facility in their village and 87.11% of women could reach a health facility in less than an hour walking.

Conclusion: The prevalence of unintended pregnancies was much higher than the 13% reported in Madagascar’s last Demographic Health Survey (2008) and was more similar to the 35% reported for the African Continent (2012). Importantly, 87.11% of the women included in the study were living relatively close to a health facility and 98.95% had attended ANC during their last pregnancy. This highlights the importance of including the WHO recommended family planning information and counselling into ANC to avoid future unintended pregnancies.
Evaluation of fetal ventriculomegaly at 11-14 weeks of gestation

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Objectives: The purpose of this study was to investigate fetal ventriculomegaly (VM) during 11-14 gestational weeks by measuring the plexus choroideus and the lateral ventricles in the 2D horizontal plane used for the measurements of the biparietal diameter (BPD).

Methods: We performed a retrospective study in 121 patients that had first trimester exam in our institution. 100 fetuses with normal outcome were compared to 21 fetuses which had confirmed VM at the second trimester exam. Measurements were performed from stored images using the Viewpoint metering tools. The ratio between the plexus and lateral ventricle diameter (PDVD), the plexus and lateral ventricle length (PLVL), the plexus and lateral ventricle circumference (PCVC) and the ratio between the plexus and lateral ventricle area (PAVA) were calculated.

Results: The median of the ratios were 0.72 [0.54;0.87] for PDVD, 0.74 [0.64;0.85] for PLVL, 0.74 [0.64;0.85] for PCVC and 0.59 [0.37;0.79] for PAVA in normal fetuses. For fetuses with VM the mean ratios were 0.49 [0.24;0.72] for PDVD, 0.38 [0.20;0.75] for PLVL, 0.47 [0.22;0.71] for PCVC and 0.29 [0.06;0.45] for PAVA. All of the measurements showed statistical significant differences between normal fetuses and fetuses with VM (p<0.001). For a cut-off below the 5th percentile the sensitivity of PDVD, PLVL, PCVC, PAVA was 86%, 95%, 90% and 100%. The specificity of all four ratios was 95%.

Conclusions: Our results suggest fetal VM can be detected with a high sensitivity as early as the first trimester of pregnancy by using the measurements of the lateral ventricle and the plexus choroideus in the standard 2D axial plane used for BPD measurements. In cases of suspected VM patients can be triaged to a specialist for further neurosonographic evaluation, follow up exams, prenatal counselling and possibly invasive testing to determine the cause of VM early on, before the 20 weeks exam.
Intake of potentially toxic medications, natural toxins and chemicals during pregnancy: analysis of data from Tox Info Suisse

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Introduction: In Switzerland, there is no available information on the exposure to potentially toxic agents in the population of pregnant women. Therefore, we set up an analysis of cases with possibly harmful substance exposure during pregnancy. The cases were archived by Tox Info Suisse, the provider of a hotline for queries respecting intoxications that can be addressed by both laymen and professionals.

Methods: Queries concerning the exposure to potentially toxic substances during pregnancy between 1995 and 2015 were analyzed. Demographic information, situations of exposure and substances as well as ways of application were available in the Tox Info Suisse database as structured data. All queries concerning adult women regardless their pregnancy status in the same time period served as control group.

Results: A total of 140'005 queries from adult (AW) and 2871 from pregnant women (PW) were identified. In the sample of PW, laymen called more frequently compared to the group of AW (71% vs. 46%), whereas calls from physicians were less frequent in the group of PW (26% vs. 48%). In both groups, the most frequent type of exposure was accidental at home (65% in PW, 41% in AW), followed by suicidal exposition (9% vs. 36%), and in PW by occupational exposures (8%) whereas in AW only 4% of the exposures were occupational (ranked 5th). In the PW group, the sum of requests decreased with increasing trimesters (760, 674, 587). The most frequent way of intake was oral in both groups (54% PW vs. AW 75%) followed by inhaled (30% vs. 10%) and dermal (8% vs. 5%). The predominant type of substances involved in PW were household products (28%) followed by medications (26%), whereas in AW medications were involved in 52% followed by household products (16%). Exposures to medications were mostly associated with suicidal intentions in both groups, but the percentage was higher in AW than in PW (65% vs. 31%).

Conclusion: Tox Info Suisse recorded an average of 137 cases of substance exposure during pregnancy per year, mostly due to accidents with household products. However, a considerable number of suicidal attempts with medications take place, but these are remarkably less frequent than in the whole adult female population. Hence, during pregnancy the risk of suicide seems to be lower but the pregnant women seem to be considerably more concerned about household accidents and occupational exposures.
Analysis of pregnant women with cardiac disease at the University Hospital Basel compared with North Western European countries participating in the ROPAC registry

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Introduction: The Registry Of Pregnancy And Cardiac disease (ROPAC) is a worldwide multicenter collaboration on pregnancy outcomes in women with structural heart disease. The aim of this study was to compare patient characteristics and pregnancy outcomes between the University Hospital Basel (USB) and the other participating centres in North Western Europe (NWE).

Methods: For the purpose of this study, data of women enrolled up to January 2017 were analysed. The following data are reported and compared between our centre and the other participating centres located in NWE (Austria, Belgium, France, Germany, Ireland, The Netherlands, Norway, Sweden, UK): age, main diagnosis, NYHA class, and pregnancy outcomes. Furthermore we had a more detailed look at the delivery and neonatal outcomes of the patients enrolled at our centre.

Results: Of a total of 1554 women enrolled in NWE, 34 were enrolled at the USB. There was no difference in age at pregnancy between women at the USB and NWE-centres (30.5 vs 30.9y, p=0.99). In our cohort more women were asymptomatic (NYHA I: 81.1% vs 97.1%, p=0.02). There were no differences in the proportion of main diagnosis between our and NWE-centres (table1). Regarding pregnancy outcomes, there was a tendency to a lower admission rate during pregnancy at our centre compared to the NWE centres (11.8% vs 21.0%, p=0.19), Heart failure rates were similar (2.9% vs 4.2%, p=0.71) as well as maternal/fetal mortality (0%/0% vs 0.4%/0.5%, p=0.71/0.69) and miscarriage rates (2.9% vs 2.3%, p=0.81). At the USB the total number of caesarean sections was similar compared to the NWE centres (11.8% vs 24.2%, p=0.09), emergency caesarean section (defined as caesarean section within 24h after indication) rates tended to be higher (14.7% vs 7.4%, p=0.11), while there was no difference for caesarean section due to cardiac indication. Looking closer at the emergency caesarean section group, 50% were because of failure to progress and 50% because of non reassuring fetal heart rates without the need of an immediate delivery. Regarding the neonatal outcome, 16.7% were born prematurely<37wks, in 16.7% we found a low birth weight<3rd centile and 3 of the neonates were admitted to the NICU, one because of prematurity, one for IRDS and one because of low birth weight.
**Table 1**

<table>
<thead>
<tr>
<th>Condition</th>
<th>USB</th>
<th>NWE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>congenital heart disease</td>
<td>61.8%</td>
<td>71.8%</td>
<td>0.2</td>
</tr>
<tr>
<td>valvular heart disease</td>
<td>17.6%</td>
<td>14.4%</td>
<td>0.57</td>
</tr>
<tr>
<td>ischemic heart disease</td>
<td>0.0%</td>
<td>1.7%</td>
<td>0.44</td>
</tr>
<tr>
<td>cardiomyopathy</td>
<td>11.8%</td>
<td>6.1%</td>
<td>0.18</td>
</tr>
<tr>
<td>aortopathy</td>
<td>8.8%</td>
<td>5.7%</td>
<td>0.45</td>
</tr>
<tr>
<td>pulmonary hypertension</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.88</td>
</tr>
</tbody>
</table>

**Conclusions:** Compared to other centres in NWE, characteristics of cohorts of women with structural heart disease followed at the USB were similar. Pregnancy outcomes were comparable, except for a slightly higher rate of emergency caesarean sections.
**Estimated fetal weight can be used as a single predictor for stem cell content in the umbilical cord blood (UCB). Results from a prospective study**

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The most important HLA-independent factor for the selection of an umbilical cord blood (UCB) unit for hematopoietic stem cell transplantation (HSCT) is the total nucleated cell (TNC) count as a surrogate marker for stem cell content. At present, about one in five donors can provide an UCB-unit with a sufficient TNC count (≥150 x 10^7). The efforts to obtain consent of all eligible donors are high and optimization of the selection is needed. Based on our retrospective analysis the purpose of this prospective study was to define prenatal predictors for TNC count that would help to identify successful UCB donors before the onset of labor.

This was a prospective analysis of 594 UCB units, which were collected from all eligible term singleton pregnancies between 4/2015 and 9/2016. The following factors were analyzed: maternal age, gravidity, parity, weight, height, gestational age, fetal sex, mode of delivery and the estimated birthweight by ultrasound. The impact of these factors on total nucleated cell (TNC) count (<150 x 10^7 cells vs. ≥150 x 10^7 cells) of the UCB unit was modelled in a multivariate analysis.

A total of 114 (19.2%) UCB units had a TNC count of > 150 x 10^7. In a ROC analysis there was no significant difference between the AUC of all prenatal factors (AUC 0.63) and estimated fetal birthweight alone (AUC 0.63). For women planning to undergo labor (n=532) an estimated birthweight of 3200 g as cut-off showed a sensitivity of 80% at a false positive rate of 72%. For a cut-off of 3300g the sensitivity was 72% at a false positive rate of 60%. For women planned for elective cesarean sections (n=62) an estimated birthweight of 3200g showed a sensitivity of 85% at a false positive rate of 58%. For a cut-off of 3400g the sensitivity was 71% at a false positive rate of 33%.

Conclusion: Intrapartum factors are known to influence stem cell content but cannot be used for prediction at the time of recruitment. Considering prenatal factors, the estimated fetal birthweight as single parameter can be considered at the time of recruitment to estimate the chances of a successful UCB donation. Regarding sensitivity and specificity for estimated fetal weight we propose a cut-off for recruitment of 3200 g for women planning to undergo labor and 3400 g for women that will have a planned cesarean section. Using this cut-off will increase the efficacy of obtaining informed consent and collection while still allowing relevant numbers of UCB unit.
IUD and congenital uterine anomalies, case report and literature review

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Introduction: Congenital uterine anomalies have a prevalence of 5% in general population and more than half are bicornuate, septate uterus or their variants. Current accessibility to ultrasound exams prevents missed diagnosis of uterine anomalies. A copper or hormonal Intra-uterine device (IUD) is a long term reversible and highly efficient contraception with increasing popularity. After insertion ultrasound exam is recommended to ensure correct intrauterine placement and uterine morphology.

Materials and Methods: A 25-year-old primigravida consulted our gynecological outpatient clinic after an unexpected positive urinary pregnancy test asking for a pregnancy termination; patient had a copper IUD placement 3 years earlier with normal annual check-ups. During a standard 2D ultrasound exam, a well placed copper IUD was visualized, in addition, after a 90 degree probe rotation, a gestational sac of 11mm with a yolk sac corresponding to 5 weeks 4 days gestation was visible. In an axial view, both structures were clearly visible, but in separate horns, after which the diagnosis of complete bicorporeal uterus (U3b) was retained; IUD was removed. The patient underwent a medical pregnancy termination according to local protocol without complications. At the two weeks follow up visit, a 3D ultrasound was performed showing a partial septate uterus (U2). No further investigations were carried out and an oral contraception was initiated. Patient was informed of future higher risk for miscarriage in case she chooses not to undergo septum ablation.

Results/Discussion: A known uterine malformation is a formal contraindication for the insertion of an IUD by the medical eligibility criteria for contraception published by the world’s health organization, or other major international gynecological societies and guidelines. Nonetheless, most anomalies remain undetected at time of insertion unless a careful ultrasound is performed. To date, the only existing meta-analysis on IUD placement in abnormal uterus is based on rare case-reports. As such, it is unable to answer questions on efficacy and complications rate.

Conclusion: The utilization of IUDs remains a contraindication in the cases of known uterus anomaly. The suitability of hormonal IUD is yet to be studied. In order to avoid missed diagnosis, we suggest a meticulous US exam before insertion in all patients, or immediately after each insertion procedure with a mandatory axial view for a double diagnosis of correct placement and absence of anomalies.
Patients with endometrial sarcomas might benefit from centralized treatment approach.


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Introduction: Uterine sarcomas are uncommon tumors and account for approximately 8% of all uterine malignancies. These tumors include carcinosarcomas (CS), leiomyosarcomas (LMS), endometrial stromal sarcomas (ESS) and undifferentiated uterine sarcomas (UUS). The aim of this study was to determine differences in outcome (OS, overall survival; RFS, relapse-free survival) in two cancer centers in Switzerland and Australia in contrast to a regional community center in neighbouring Germany. We evaluated clinic pathological factors as well as survival.

Material and Methods: In total, 87 patients with sarcoma of the uterus were treated between 1991 and 2015. The data was collected retrospectively and anonymously after receiving ethics approval. Data analysis was performed with R using descriptive statistics, Kaplan-Meier survival analysis with corresponding log-rank tests. Overall survival and relapse free survival was calculated for all patients and for each specific center.

Results: The cohort consisted of CS (44.8%), LMS (20.7%), ESS (17.2%), UUS (5.75%) and Others (11.5%). Median age at diagnosis was 61.0 years (IQR 54.0-69.0). Hereby, 60.0% of the patients were FIGO stage I, 4.44% stage II, 17.8% stage III and 17.8% stage IV. Almost 50% of patients had symptoms at initial presentation. The most common symptom was vaginal bleeding (34.2%). Adjuvant therapy included chemotherapy (25.6%) and radiotherapy (39.2%). Median follow-up was 15 years, with 37.4% of the patients dying of disease progression. RFS for the whole cohort at 15 years was 86.7%, the best prognosis hereby being ESS, independent of any adjuvant treatment option. For the whole cohort median OS was better for patients treated at the two sarcoma cancer centers (9.3 y and 14.28 y vs. 2.1 y, p=0.01). LMS and CS had a similar poor outcome with a median survival of only 3.34 and 3.42 years, respectively. Both aggressive tumor subtypes profited only in FIGO stage I and II from adjuvant chemotherapy (trend for better OS, p=0.0845). Patients with FIGO Stage I and II LMS and CS showed significant better RFS (p=0.0418) but no trend for better OS from radiotherapy. Unfortunately, further subanalysis as to the optimal chemotherapy regimens was not possible in this cohort.

Conclusion: Sarcomas of the uterus are rare and highly aggressive tumors which seem to profit from treatment in a specialised cancer center. Prospective international multicenter trials are urgently needed to determine optimal treatment for this uncommon cancer.
The Combination of Preoperative PET/CT and Sentinel Lymph Node Mapping in the Surgical Management of early Stage Cervical Cancer

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Introduction: The adoption of the sentinel lymph node (SLN) mapping in cervical cancer is controversial, especially in patients with tumors exceeding 2cm in diameter because of fear of missing metastatic lymph nodes. PET/CT scan is considered the most useful non-invasive method to identify patients with lymph nodal metastases. Aim of the study is to evaluate the use of PET/CT scan and SLN mapping alone or in combination in cervical cancer patients.

Materials and methods: Data on patients with stage IA1-IIA cervical cancer undergoing PET/CT scan and SLN mapping between 2008 and 2016 were retrospectively collected. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of the PET/CT scan and SLN mapping, alone or in combination, in identifying cervical cancer patients with lymph node metastases were calculated.

Results: Sixty patients out of 168 patients who underwent a surgery for cervical cancer met inclusion criteria. Tumor diameter was ≤2cm and >2cm in 19 (31.7%) and 41 (68.3%) cases respectively. Sixteen(26.7%) had lymph nodal metastases. In 14 cases these were detected in the SLNs. In one patient with metastatic lymph nodes no SLNs were detected and in the other one an clinically enlarged, metastatic, non SLN was detected next to a negative SLN. The PET/CT scan showed a sensitivity of 68%, a specificity of 84%, a PPV of 61% and a NPV of 88% in detecting metastatic lymph nodal disease. SLN mapping showed a sensitivity of 93%, a specificity of 100%, a PPV of 100% and a NPV of 97%. The combination of PET/CT scan and SLN mapping showed a sensitivity of 100%, a specificity of 100%, a PPV of 100% and a NPV of 100%. For patients with tumors of >2cm in diameter, the PET/CT scan showed a sensitivity of 68%, a specificity of 72%, a PPV of 72% and a NPV of 86%. SLN mapping showed a sensitivity of 72%, a specificity of 100%, a PPV of 100% and a NPV of 95%. The combination of PET/CT scan and SLN mapping showed a sensitivity of 100%, a specificity of 76%, a PPV of 72% and a NPV of 100%.

Conclusion: Through the adoption of a SLN mapping algorithm in which all the clinically suspected lymph nodes are removed and side specific lymphadenectomies are performed in patients who do not map, all the patients with metastatic lymph nodes were detected. The adoption of a preoperative PET/CT scan may represent an additional “safety” tool that helps the surgeon in identifying and removing metastatic lymph nodes, especially in patients with larger tumors.
Laparoscopic Sacrocolpopexy with or without midurethral sling insertion: one or two step approach: a prospective study

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Clinic: Urogynecology, Cantonal Hospital Lucerne

Introduction: There is strong evidence that postoperative SUI is less frequent after the combination of prolapse and anti-incontinence surgery compared to prolapse surgery alone. However some data showed that a delayed approach is justified. The aim of this study was to compare the effectiveness and safety of combined laparoscopic sacrocolpopexy (SCP) and incontinence surgery with midurethral sling (MSU) versus laparoscopic SCP with a delayed approach.

Materials and methods: A prospective study (2013-2016) was performed including women with pelvic organ prolapse with concomitant symptomatic SUI or occult SUI who underwent combination of laparoscopic SCP with MUS insertion versus SCP alone. Primary outcome measures were asymptomatic regarding SUI after prolapse surgery alone, persisting SUI or de novo SUI with or without subsequent anti-incontinence surgery. The follow-up period was 6 weeks / 3 months postoperatively.

Results: A total of 137 patients who underwent a laparoscopic SCP, 13 in combination with a MUS insertion, were included. Preoperatively 47% (n=65) with symptomatic SUI, 10% (n=13) with occult SUI and 43% (n=59) asymptomatic for SUI. 39% (=48) of initial incontinent women no longer had SUI after sacrocolpopexy alone, 15% (=19) showed persisting SUI and 6% (n=7) developed a de novo SUI. 7/ 19 women who showed persisting SUI postoperatively required subsequent incontinence surgery. In the subgroup of women that developed a de novo SUI three needed additional anti-incontinence surgery. Voiding dysfunction was seen in two patients.

Conclusion: Our study showed that after POP surgery alone almost 40% of women who were symptomatic no longer had SUI. So overall only 6.5% of women with initial symptomatic or occult SUI required an additional incontinence surgery. Therefore we showed that a two-step approach is justified.
Urogynecologic operations in Switzerland between 1998 and 2016

Author: Scheiner D., Ghisu GP, Fink D., Perucchini D., Betschart C.
Clinic: Gynecology, University Hospital Zurich

Introduction: Hysterectomy, incontinence surgery, pelvic organ prolapse (POP) or fistula repair are common urogynecologic procedures. The aim of this study was to determine their current state over the last two decades in Switzerland and to evaluate their frequency, patient age, and hospital stay.

Materials and methods: Retrospective analysis of the continuously collected 1’431’346 data records (cases) from ASF (Arbeitsgemeinschaft Schweizerische Frauenkliniken, Sevisa AG) between 1998 and 2016. Depending on the year, 45 to 75 Swiss teaching gynecologic hospitals provided data. Each 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. In 2005, the data collection sheet was adapted to address the changes in the field of ob/gyn, inter alia the different minimal invasive midurethral slings (MUS: retropubic TVT, and transobturator TOT). Statistical analysis was made by ANOVA and Chi Square test, as appropriate. Values as % or mean±standard deviation.

Results: Between 1998 and 2016, a total of 138’803 cases was found, making 12.8% of all inpatient ASF cases: 93’247 hysterectomies, 44’612 POP repair, 17’695 incontinence procedures, 4’982 combined POP and incontinence procedures, and 277 fistula (67.2 %, 32.1 %, 12.7 %, 3.6 %, and 0.2 %, resp.). Mean age is increasing from initially 53.8±14.0 to 57.5±14.9 (p<0.001) years while hospital stay declined steadily from 9.7±5.7 to 4.3±4.8 days (p<0.001). The percentage for hysterectomies decreased from 81.8 to 60.0 %. There is a strong relative reduction both for abdominal and vaginal hysterectomies from 59.4 % to 14.8 %, and 38.4 to 22.8 %, resp., in favor of laparoscopic procedures (from 2.2 to 62.4 %). MUS are nowadays the common procedure for treating stress urinary incontinence, at present with a 2:1 ratio in favor of TVT (vs TOT).

Conclusion: In Switzerland, one out of 8 gynecologic inpatients undergoes a (uro)gynecological procedure such as hysterectomy, POP repair or incontinence surgery. Over the last years, less invasive procedures, namely laparoscopic hysterectomy and midurethral slings, are still on the rise, contributing to the reduction of hospitalization and total health care costs even in an ageing patient population.
Patient-reported mid- and long-term outcome after sacrospinous ligament fixation and pelvic floor reconstruction between 2007 and 2015.

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Introduction: Pelvic organ prolapse (POP) affects 8-30% of women, and 11-19% of women will undergo prolapse surgery until the age of 80 years. Vaginal sacrospinous ligament fixation (VSSLF) is a common surgical standard procedure in the treatment of apical descent. Since the Cochrane analysis of 2013, its re-operation and dyspareunia rate are matter of concern. The aim of this study was to evaluate patient-reported quality of life (QoL), re-operation and dyspareunia rate after VSSLF.

Methods: In this retrospective study, we identified a total of 394 women who underwent VSSLF for POP repair between 01.01.2007 and 31.12.2015 using our medical databases and sent them two QoL questionnaires: (1) the “Deutscher Beckenboden-Fragebogen” (DBF), consisting of four domains on incontinence, bowel, and POP symptoms, and sexual disorders, and (2) the Short Form (36) Health Survey, a 36-item, patient-reported survey of patient health (SF36). Furthermore, we added questions on demographic and treatment-related information such as re-operation date (where applicable). Statistic evaluation was undertaken by means of descriptive analysis, and regression analysis, as appropriate, using Intercooled Stata/SE 14.2. P values <0.05 were considered to indicate statistical significance (two-sided). Ethics committee approval was given (BASEC-Nr. 2016-01219).

Results: After two mailings, 129/394 patients (32.7%) returned the questionnaires; 13 (0.3%) died. Mean age was 68.3±10.6 years (range 36.2-89.3), and parity 2.2±1. Follow-up time after surgery was 5.0±2.5 years (1.1-10.6). The 34.7% sexually active patients are younger (63.1±11 years) than the inactive ones (71.5±8.8, p<0.0001) and report less complaints for sexuality disorders (DBF correlation -0.5448, p<0.0001). The younger patients were healthier (SF-36 physical function –0.2442, p<0.006; vitality -0.1858, p<0.039; physical role -0.3033, p<0.0009), but for general health, older patients showed better scores (correlation 0.1858, p<0.041). Four patients (3.1%) were re-operated after 1.0, 3.0, 4.0, and 7.0 years, resp. (mean 3.8±2.5). Common reasons for sexual inactivity were missing partner (46.6 %), lack of interest (20.6 %), male impotence (13.7 %), or other reasons not further specified (21.9%), but rarely dyspareunia (4.1%) or vaginal dryness (2.7%).

Conclusion: VSSLF restores POP symptoms effectively with a very low recurrence rate. Dyspareunia is a rare reason for sexual abstinence.
Are we able to estimate the age of women by photodocumentation of the vulva? an interobserver analysis

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Objective: Accurate and detailed descriptions of female genitals are rare, although the appearance of the vulva is the key for understanding and diagnosing many diseases that women of all ages encounter. The appearance of the vulva differ depending on ethnicity, age, weight or type of skin. Although anatomy is known, there are just few descriptions of the size of a “normal vulva” in medical literature.

Material and methods: To determine objective measurements of the vulva in patients aged between 15-84 years we recruited 650 patients in 20 months for examination. We included Caucasian women without signs for Lichen sclerosus or systemic hormone therapy. Exclusion criteria were pregnancy and any operation of the vulva. The patients were divided in 7 groups by age (1: 15-24, 2: 25-34, 3: 35-44, 4: 45-54, 5: 55-64, 6: 65-74, 7: 75-84). Part of the study was a voluntary standardized photodocumentation of the vulva. One-hundred and forty black and white photos were randomized (20 of each decade) and were shown to ten gynecologist to assign the age of the patient into 1 of the 7 decades.

Results: Evaluation of interrater reliability using Fleiss’Kappa showed just a poor to moderate agreement into the decades from 0,29-0,37. Highest correlation with correct estimation of age were decade 7 with a correct agreement of 72.5% and a Fleiss’Kappa of 0.367 followed by decade number 3 with an agreement of 40.5% and a Fleiss’Kappa of 0.314. Only in 38.1% pagients’ age decade was estimated correctly. 34.9% declare patients to be older and 27.4% to be younger based on the photo. Decade 1 was worst with an correct agreement of 27.5% and a Fleiss’Kappa of 0.367, which means that all observer were equally uncertain.

Conclusion: In these interobserver analysis we were able to demonstrate that a conclusion to the age based on the appearance of a normal vulva is not as easy to assess as expected. Although evaluated by specialists, only poor to moderate results were achieved.
Prosigna™ for adjuvant treatment decision-making in estrogen-receptor-positive, HER2-negative early-stage breast cancer

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Introduction: Immunohistochemical markers of breast cancer are proven indicators for guiding treatment recommendations in major breast cancer subtypes. There is growing consensus that multigentests provide additional information for luminal breast cancer types to avoid chemotherapy (CT). NanoString's Prosigna™ Breast Cancer Prognostic Gene Signature Assay is based on the PAM50 gene expression signature. The test outputs a risk of recurrence (ROR) score, risk category, and intrinsic subtype (Luminal A/B, HER2-enriched, Basal-like). It has been used in our department since 2015 for selected cases according to the tumor board discussion. This analysis reviews the selection criteria for Prosigna™ application and its influence on adjuvant CT.

Methods: We performed a retrospective analysis of 228 patients, who were treated for breast cancer in our clinic between 2015 and 2016. Immunohistochemical characteristics of the carcinoma, tumor size, nodal status and distant metastasis were investigated. Furthermore we compared the result of Prosigna™ and immunohistochemistry to CT recommendations.

Results: Among the 228 patients analyzed, Prosigna™ was tested in 41 (18%). In 15 (36%) of the Prosigna™-tested patients, the results changed the recommended CT. Among the 25 patients classified as high-risk based on immunohistochemistry, CT recommendations were confirmed by Prosigna™ in 20 (80%), but not confirmed-and thus avoided-in 5 (20%) due to a low risk or LuminalA result in genetic testing. Among the 16 patients classified as low-risk based on immunohistochemical markers, the recommendation for no CT was confirmed in 6 patients (38%), but recommended in 10 (62%) due to high risk or Luminal B constellation in genetic testing. In 3 of the 14 lymph node positive patients (34%) CT was avoided due to a low risk result. Although Prosigna™ has not been validated in a TNM stage >T2, it classified 2 of 5 TNM stage T3/T4 patients as low-risk.

Conclusion: In 12% of breast cancer patients treated at our clinic between 2015-2016, Prosigna™ results changed CT recommendations based on traditional immunohistochemical markers. Published literature suggests that Prosigna™ changes therapy in up to 18%. At our clinic the Prosigna™ is mostly applied to intermediate-risk cases. Patients with a low-risk constellation are primarily treated without CT and no genetic testing is performed. This may explain the relatively small proportion of patients in whom CT was avoided.
Evaluation of pathologic complete response after neoadjuvant chemotherapy in patients with breast cancer 2010-2016: a single center study

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Objectives: Neoadjuvant chemotherapy (NAC) has become a standard recommendation in patients with inflammatory breast cancer and in the management of locally advanced breast cancer. Furthermore it is considered in patients that would require mastectomy but where breast conservation is favored. Pathologic complete response (pCR) is a strong prognostic factor for the risk of recurrence. Definition differs among various aspects: ypT0/is, ypT0, ypT0/is ypN0 and ypT0 ypN0. The aim of our study is to analyze the pCR rates in different pathologic and molecular subtypes.

Methods: We retrospectively analyzed the pathologic complete response in patients with breast cancer after neoadjuvant chemotherapy over 6 years (2010-2016). 62 patients received NAC during this time. Demographic data, information on tumour stage, pathology reports, surgery and systemic therapy were collected. We defined pCR as no pathologic findings of cancer cells (ypT0) and residual ductal carcinoma in situ (ypTis) in breast tissue.

Results: Median age of the patients was 45.8 years (Range 24-72). In 5 cases (8.1%) NAC was given due to medical condition respectively in cases of breast cancer during pregnancy. Tumor stage ranged from cT1c to cT4d. 9 patients (5.6%) had inflammatory breast cancer. 43 patients (69.4%) had node positive breast cancer. 23 patients (37.0%) were Her2 positive, average of Ki67 was 45.0% (range 5-90%). Pathologic complete response defined as ypT0 was achieved in 19 cases, in 7 cases ypTis was found, corresponding to an overall response rate of 41.9%. One patient died during chemotherapy. 3 Patients (4.8%) had metastases before starting chemotherapy.

Conclusions: Pathologic complete response is a significant prognostic factor for overall survival especially in hormone receptor negative breast cancer. Furthermore it can serve as an in vivo sensitivity test and can increase the rate of breast conserving therapy due to downsizing of tumor size. Although not all targets and cycles have been determined yet and despite the heterogeneity of patients we are able to present an overall response rate of 41.9%. Therefore NAC has to be considered as an option in any patient who requires chemotherapy.
The vermian-cresta angle: a new method to assess fetal vermis position within the posterior fossa using Magnetic Resonance Imaging

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Introduction: Normal morphometry of the vermis and its relation to the posterior fossa (PF) rules out most major anomalies of the cerebellum. However, although some attempts to measure the angle between vermis and PF structures exists, i.e. brainstem and tentorium, an accurate categorization of fetal upward rotation/hypoplasia of the vermis remains a challenge. Our aim was to test a new method to assess fetal vermis position and biometry by Magnetic Resonance Imaging (MRI).

Materials and Methods: A retrospective study of all the intrauterine MRIs performed between January 2008 and January 2016 was conducted by searching the fetal imaging databases. We tested the possibility to calculate the Vermian-Crest Angle (VCA) composed by the convergence of two lines, the vermian line defined by the basis of the vermis and the internal crest line at the occipital attachment of the falx cerebelli. Thereafter, the VCA was assessed consecutively in fetuses with no evidence of any Central Nervous System (CNS) anomaly using MRI-mid-sagittal plane images throughout pregnancy. Additionally, MRI measurement were compared with the nomograms of VCA prospectively obtained at prenatal three-dimensional ultrasound scan (3D-US) in a cross-sectional cohort of physiological pregnancies. Spearman rank test, as well as paired Student’s t-test were used for statistical purposes.

Results: Eighty-one cases were selected from the prenatal imaging database. Mean±SD of gestational age (GA) at inclusion was 26.3±2.6 weeks (range: 22-32). In all cases the VCA could be assessed. The VCA was 68.46±10.29 within the investigated gestation age period. No correlation was found between VCA and gestational age (r=.19; p=.12). No significant differences were found between the MRI and 3D-US measurements (p=.11).

Conclusions: We provide here a new and simple method to assess vermian position within the PF and its biometry using MRI. The combined information may be of value for screening purposes and in particular to differentiate between the various pathologic situations encountered within the PF.

Key words: cerebellum, vermis, prenatal diagnosis, MRI, “vermian - crest angle"
LOW-DOSE ORAL MISOPROSTOL FOR LABOUR INDUCTION: AN EFFICIENT TITRATED REGIMEN

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Introduction: The ideal product for induction of labour should have little side effects, show good acceptance, be cheap and have a predictable induction to delivery (ItD) time. Although misoprostol is an off label drug for this indication, there are solid data regarding its safety and efficacy. We previously reported (SGGG Kongress 2016) our experience after switching from vaginal to oral route of misoprostol. We now present our data after implementation of a new oral low-dose misoprostol titration regimen showing a significant reduction of ItD time as compared with our previous oral regimen.

Materials and methods: We analyzed a retrospective cohort of 112 induced deliveries, between 34-41 weeks of gestation, presenting with a Bishop score ≤5. The primary outcome variable was ItD time. Inductions were performed using a titrated oral low-dose regimen with misoprostol po administered every 2h. Patients received 20mcg of misoprostol for the first two administrations, followed by doses of 40mcg (max 7 doses with 240mcg of misoprostol). Labour started either spontaneously or with subsequent support of intravenous oxytocin. We compared this data to our previous oral low-dose regimen (25mcg every 4h, max. 200mcg).

Results: 112 patients were included from 17.01.2016 to 26.01.2017. The mean ItD time was 19h. The average dose of administered misoprostol was 200mcg (6 doses). 65 patients (58%) have been induced using only misoprostol, while 47 patients (42%) needed additional administration of intravenous oxytocin. Vaginal delivery occurred in 99 patients (88.4%), while 13 patients (11.6%) needed a caesarean section. Patients who delivered vaginally after induction with misoprostol only, and in association with oxytocin, had a ItD time of 15h and 28h respectively. Vaginal delivery occurred within 24h in 71.7% of all cases. Indication for induction showed a significant influence on ItD time. No case of uterine hyperstimulation was observed. Neonatal adverse events as fetal acidosis (pHa <7.10) occurred in 6 cases and 5-min Apgar <7 in 2 cases. We observed postpartum hemorrhage (blood loss > 500ml) in 8 cases of vaginal deliveries.

Conclusions: Oral titrated «low-dose» misoprostol is a safe, effective and low-cost induction method. Comparing to our own data this regimen allowed a reduction of ItD time from 34h to 19h, without increase of adverse maternal or neonatal outcome. This regimen showed a good patient acceptance and reduced considerably the hospital stay and costs.
A comparative analysis of the caesarean section rate and neonatal outcome of two university hospitals in Switzerland using the ten-group classification system

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Introduction: The increasing rate of cesarean sections (CS) raises concerns about maternal and neonatal outcomes. We aimed to compare the CS rate and the neonatal outcome of two university hospitals in Switzerland and to evaluate differences between them using the Ten-Group Classification System (TGCS).

Material and methods: Retrospective study evaluating all the deliveries of the year 2013 in the University Hospitals of Geneva (HUG) and Basel (USB) using the TGCS. Deliveries of each hospital were analyzed separately and then compared.

Results: There were 6151 deliveries (3924 at HUG and 2227 at USB) with an overall CS rate at 31.1% and a significant difference between both centers (29.0% vs 34.8%, p<0.001). Women were slightly older at the USB (33.08 vs 32.57 y, p=0.038). The groups contributing the most to the CS rate were groups 1, 2 and especially 5, accounting for 66.9% at HUG and 60.6% at USB. Between centers, contribution to CS rates differed significantly for groups 1, 3 and 8. Even though CS rates were different for groups 2 and 4, their contributions to overall CS rate did not differ between centers. In women with previous uterine scars (group 5) HUG had a significantly higher CS rate. There was no difference in gestational age (24 - 42 weeks of gestation), but fetal weight (FW) was significantly lower at the USB (3163g vs 3065g, p=0.004). Arterial and venous pH were significantly higher at the USB in all ten groups. Newborns in groups 4 and 9 had lower pH values compared to the other groups. There was no difference in Apgar score at 1, 5 and 10 minutes or in the rate of transfer to neonatal intensive care unit (NICU). The highest transfer rate occurred in the Robson group 8: 44.5% vs 48.4%.

Conclusion: Overall, CS rates were high and differed significantly between the two centers. HUG had a high number of labor induction but USB had higher CS rates among low risk women (groups 1-4). Further investigation and a detailed examination of the protocol of management of labor are indicated. A higher maternal and neonatal risk expressed by a higher maternal age or lower FW might cause an earlier decision for a CS at UBS. There was only a small and clinically not relevant impact on the pH and the rate of transfer to NICU was not different. This study confirms that the TGCS allows comparative analysis between hospitals and therefore can be linked with neonatal outcome. We consider that despite the higher CS rate at USB the neonatal outcome was not significantly improved.
<table>
<thead>
<tr>
<th>Groups</th>
<th>CS/Total deliveries</th>
<th>Relative size of each group</th>
<th>CS rate in each group</th>
<th>Contribution of each group to total CS rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CS HUG</td>
<td>USB</td>
<td>HUG [%]</td>
<td>USB [%]</td>
</tr>
<tr>
<td>1 NP, SC, ≥37 wk, spontaneous labor</td>
<td>125/793</td>
<td>133/621</td>
<td>20.2</td>
<td>27.9</td>
</tr>
<tr>
<td>2 NP, single cephalic, ≥37 wk, induced or cesarean before labor</td>
<td>285/522</td>
<td>157/310</td>
<td>20.9</td>
<td>13.9</td>
</tr>
<tr>
<td>3a Inductions</td>
<td>226/572</td>
<td>118/271</td>
<td>19.4</td>
<td>12.2</td>
</tr>
<tr>
<td>3b pre-labor CS</td>
<td>56/729</td>
<td>30/309</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td>3 MP (excluding previous cesareans), single cephalic, ≥37 wk, spontaneous labor</td>
<td>18/902</td>
<td>30/504</td>
<td>20.4</td>
<td>22.6</td>
</tr>
<tr>
<td>4 MP (excluding previous cesareans), single cephalic, ≥37 wk, induced or cesarean before labor</td>
<td>67/802</td>
<td>4/172</td>
<td>14.6</td>
<td>7.7</td>
</tr>
<tr>
<td>4a Inductions</td>
<td>40/557</td>
<td>22/147</td>
<td>14.2</td>
<td>6.6</td>
</tr>
<tr>
<td>4b pre-labor CS</td>
<td>27/255</td>
<td>12/255</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>5 Previous CS, single cephalic ≥37 wk</td>
<td>348/427</td>
<td>178/364</td>
<td>10.9</td>
<td>11.9</td>
</tr>
<tr>
<td>6 All NP breeches</td>
<td>87/825</td>
<td>38/824</td>
<td>7.4</td>
<td>2.9</td>
</tr>
<tr>
<td>7 All MP breeches (including previous CS)</td>
<td>56/853</td>
<td>34/441</td>
<td>1.6</td>
<td>1.8</td>
</tr>
<tr>
<td>8 All multiple pregnancies (including previous CS)</td>
<td>62/87</td>
<td>71/96</td>
<td>2.2</td>
<td>4.3</td>
</tr>
<tr>
<td>9 All abnormal lies (including previous CS)</td>
<td>7/77</td>
<td>12/12</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>10 All single cephalic ≥37 wk (including previous CS)</td>
<td>81/246</td>
<td>50/143</td>
<td>6.3</td>
<td>6.4</td>
</tr>
<tr>
<td>10a 32-36 wks</td>
<td>60/239</td>
<td>38/117</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>10b 28-31 wks</td>
<td>14/22</td>
<td>8/12</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>10c 24-27 wks</td>
<td>4/15</td>
<td>10/14</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1139/1294</td>
<td>720/2227</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Neonatal outcome according to the Robson Ten group Classification System (TGCS)

<table>
<thead>
<tr>
<th>TGCS</th>
<th>CS HUG (all cases)</th>
<th>CS USB (all cases)</th>
<th>pH art HUG</th>
<th>pH art USB</th>
<th>p value</th>
<th>NICU HUG (n)</th>
<th>NICU USB (n)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>122</td>
<td>134</td>
<td>7.23±0.07</td>
<td>7.29±0.05</td>
<td>&lt;0.0001</td>
<td>4</td>
<td>2</td>
<td>ns</td>
</tr>
<tr>
<td>2a</td>
<td>223</td>
<td>115</td>
<td>7.23±0.06</td>
<td>7.28±0.05</td>
<td>&lt;0.0001</td>
<td>16</td>
<td>9</td>
<td>ns</td>
</tr>
<tr>
<td>2b</td>
<td>61</td>
<td>39</td>
<td>7.23±0.06</td>
<td>7.29±0.04</td>
<td>&lt;0.0001</td>
<td>5</td>
<td>6</td>
<td>ns</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>30</td>
<td>7.21±0.12</td>
<td>7.28±0.05</td>
<td>0.02</td>
<td>1</td>
<td>0</td>
<td>ns</td>
</tr>
<tr>
<td>4a</td>
<td>42</td>
<td>22</td>
<td>7.20±0.08</td>
<td>7.27±0.01</td>
<td>0.005</td>
<td>3</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>4b</td>
<td>27</td>
<td>25</td>
<td>7.24±0.07</td>
<td>7.34±0.03</td>
<td>&lt;0.0001</td>
<td>1</td>
<td>5</td>
<td>ns</td>
</tr>
<tr>
<td>5</td>
<td>345</td>
<td>178</td>
<td>7.23±0.06</td>
<td>7.29±0.05</td>
<td>&lt;0.0001</td>
<td>10</td>
<td>11</td>
<td>ns</td>
</tr>
<tr>
<td>6</td>
<td>87</td>
<td>58</td>
<td>7.22±0.06</td>
<td>7.30±0.04</td>
<td>&lt;0.0001</td>
<td>10</td>
<td>8</td>
<td>ns</td>
</tr>
<tr>
<td>7</td>
<td>59</td>
<td>34</td>
<td>7.23±0.05</td>
<td>7.29±0.04</td>
<td>&lt;0.0001</td>
<td>15</td>
<td>6</td>
<td>ns</td>
</tr>
<tr>
<td>8</td>
<td>126</td>
<td>146</td>
<td>7.26±0.05</td>
<td>7.32±0.04</td>
<td>&lt;0.0001</td>
<td>62</td>
<td>65</td>
<td>ns</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>12</td>
<td>7.20±0.06</td>
<td>7.28±0.05</td>
<td>0.006</td>
<td>1</td>
<td>0</td>
<td>ns</td>
</tr>
<tr>
<td>10</td>
<td>83</td>
<td>56</td>
<td>7.25±0.09</td>
<td>7.29±0.1</td>
<td>0.03</td>
<td>57</td>
<td>39</td>
<td>ns</td>
</tr>
</tbody>
</table>
Cesarean section at full dilatation: experience with a fetal pillow

Author: 1) Monod C., 1) Nussbaumer H., 1) Matt L., 1) Vetter G., 2) Girard T., 1) Hösli I.
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Introduction: Increasing rate of cesarean section (CS) seems to be accompanied by a rise in CS at full dilatation (CSFD) (Unterschneider11). CSFD with an impacted fetal head in the mother's pelvis may cause difficult fetal extraction with serious complications for mother and neonate (Allen05). Different techniques are described to deliver the impacted head at CS (Zimmermann15, Waterfall16). The Fetal pillow (Safe Obstetric Systems, Shenfield, UK) is a single-use silicon device, placed in the vagina and inserted below the baby's head, and inflated with saline in order to disimpact the fetal head at CSFD. We describe our experience with the use of a FP for CSFD.

Material and Methods: We performed a retrospective study from 1.6.2015 to 31.12.2016. All CSFD for cephalic singleton were extracted from our database and searched for the description of difficult fetal head extraction (DFHE) and use of the fetal pillow (FP). The uterotomy-delivery time (UDT) as well as maternal complications such as blood loss and uterine tear extension, Apgar scores and umbilical cord pH were collected.

Results: Over the study period we performed 1421 CS, thereof 117 CSFD (8%), all under spinal or epidural anesthesia, 83 CSFD without devices (WD) and 27 with FP. We excluded 4 cases with the use of the C-snorkel device as well as 5 missed trial instrumental deliveries (thereof 2 with FP). Table 1 summarizes the characteristics, maternal and fetal complications.
**Conclusion:** Although the sample size of this study is small, there is a tendency to better outcomes for maternal complications and shorter UDT with FP, as reported in few others studies (Seal16, Huda16). A randomized study comparing different simple devices could be part of an answer to a rising obstetrical problem.

<table>
<thead>
<tr>
<th></th>
<th>WD (n=83)</th>
<th>With FP (n=25)</th>
<th>p value</th>
</tr>
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<tbody>
<tr>
<td>Nulliparity</td>
<td>84.3% (70)</td>
<td>88.0% (22)</td>
<td></td>
</tr>
<tr>
<td>BMI kg/m2</td>
<td>30.0 ±4.5</td>
<td>30.4 ±6.2</td>
<td></td>
</tr>
<tr>
<td>Gestational age weeks of gestation</td>
<td>39 ± 5</td>
<td>40 ± 0</td>
<td></td>
</tr>
<tr>
<td>Fetal weight g</td>
<td>3472±511</td>
<td>3433±589</td>
<td></td>
</tr>
<tr>
<td>Full dilatation min</td>
<td>180± 91</td>
<td>196± 85</td>
<td></td>
</tr>
<tr>
<td>Fetal head station (above ISP)</td>
<td>1.5±0.96</td>
<td>1.2±0.93</td>
<td></td>
</tr>
<tr>
<td>DFHE</td>
<td>34.9%(29)</td>
<td>28% (7)</td>
<td></td>
</tr>
<tr>
<td>UDT (all) sec</td>
<td>81.7±59.8</td>
<td>68.7±52.6</td>
<td>0.31</td>
</tr>
<tr>
<td>UDT Easy fetal extraction sec</td>
<td>55.9±27.2</td>
<td>47.8±25.42</td>
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<tr>
<td>UDT DFHE sec</td>
<td>132.5±73.3</td>
<td>131.7±64.7</td>
<td></td>
</tr>
<tr>
<td>Uterine tear</td>
<td>15.7 % (13)</td>
<td>8% (2)</td>
<td></td>
</tr>
<tr>
<td>Atony</td>
<td>8.4 % (7)</td>
<td>8% (2)</td>
<td></td>
</tr>
<tr>
<td>Blood loss in ml</td>
<td>624±252</td>
<td>632±215</td>
<td></td>
</tr>
<tr>
<td>Additional maneuver (reverse breech, hand push, T-uterotomy)</td>
<td>15.7% (13)</td>
<td>8% (2)</td>
<td></td>
</tr>
<tr>
<td>pH arteriel</td>
<td>7.27±0.06</td>
<td>7.26±0.06</td>
<td></td>
</tr>
<tr>
<td>Apgar 5 min</td>
<td>9.23±0.94</td>
<td>9.12±1.24</td>
<td></td>
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</table>
Prenatal diagnosis of rhombencephalosynapsis with ultrasonography and magnetic resonance imaging: own experience and literature review

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Background and purpose: rhombencephalosynapsis (RES) is a rare cerebellar malformation characterized by congenital fusion of the hemispheres and absence of the vermis. This condition leads to severe developmental delay, seizures and involuntary head movements. We report 3 cases diagnosed at prenatal ultrasound (US) and intrauterine Magnetic Resonance Imaging (MRI) and review the literature.

Materials and Methods: over a 5-year period, 3 cases of RES were detected at prenatal US. The clinical cases were reviewed, and correlation was made between the US and MRI, genetic investigations and autopsy findings where available.

Results: all the cases were diagnosed at prenatal US due to absence/severe hypoplasia of the vermis. One case presented with severe tri-ventricular ventriculomegaly. In 1 case, we found large hyperechoic kidneys with absence of cortico-medullary differentiation, suspicious of autosomal dominant polycystic kidney disease. Subsequent MRI confirmed the diagnosis in all cases. Karyotype analysis with CGH array and autopsy were available in 2 cases. Pregnancy was terminated in 2 cases, while one infant died in the neonatal period. Our literature review showed only around 50 prenatally diagnosed cases of this condition, the majority presenting with ventriculomegaly. Poor prognosis affected more than 50% of cases.

Conclusions: While RES is a rare condition, the physician must be alerted to consider RES in the differential diagnosis, when absence of the vermis is suspected at prenatal US, even without evidence of ventriculomegaly or other central nervous system (CNS) anomalies. Complete anatomical survey is advisable in these cases. MRI remains to be the imaging modality of choice in confirming the diagnosis.
SimMat, a training program based on simulation for obstetrical emergencies: evaluation of a new interprofessional education program implemented in our department for all professionals in charge of pregnant women.

Clinic: Obstetrics and Gynecology, Geneva University Hospitals

Introduction: Healthcare providers in charge of pregnant women have to face emergency situations leading to potential maternal and perinatal complications needing multidisciplinary care from trained professionals. However, it is estimated that over half of maternal and neonatal deaths are caused by suboptimal care and communication problems. Based on this information, several expert societies recommend the establishment of team-training programs, including simulation training. Therefore, with the financial support of a private foundation “Fondation Privée des HUG”, we have set up in our clinic a training program based on simulation for obstetrical emergencies intended for all healthcare providers in charge of pregnant women. This program, called SimMat, started in January 2016 and will continue to December 2017, including about 320 participants over this period. The aim of the present study is to evaluate the global benefit of this training on patients and participants.

Material and Method: To evaluate the impact of this program on patients, we are performing a prospective study based on the analysis of the perinatal and obstetrical clinical outcomes, and the evaluation of childbirth experience through a questionnaire filled by the mothers, during the year before and after implementation of our program. To assess the benefit on the participants, we are conducting a prospective study based on different anonymous questionnaires about knowledge, satisfaction and feeling of job security addressed to the healthcare providers before the training, just after and later on. Moreover, we randomized participants in two groups to compare teamworking skills during simulation, one group who had taken part in a simulation based on TeamSTEPPS tool and another one who had not taken part.

Results: In 2016 there was 177 participants on the program. Amongst them, 59.9% responded to the satisfaction survey (106/177). The respondents would recommend the program at 96.93%, their satisfaction level is up to 88.29%, 94.79% find it relevant and they estimate their knowledge to have improved by 47.81%. All results are not yet known as the study is still in progress.

Conclusion: Our results indicate satisfaction which is promising. Other simulation-education programs in obstetric practice have shown effectiveness on participants, particularly in technical and non-technical skills during simulation and theoretical knowledge. With this study, we hope to be able to provide evidence of the global benefit of this program.
PREDICTORS OF CERCLAGE FAILURE IN PATIENTS WITH SINGLETON PREGNANCY UNDERGOING PROPHYLACTIC CERVICAL CERCLAGE

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Introduction: The role of cervical cerclage to prevent preterm birth (PTB) remains controversial. Despite its long history in obstetrics, there are only two randomized, controlled trials assessing the practice in the prophylactic setting and their sample sizes small. Extracting the maximal amount of information from observational studies and, specifically, identifying predictive factors for the success of cervical cerclage remains an important area of research which can help guide clinicians as well as to inform patients. The aim of this study was to identify prognostic factors for cerclage failure among singleton pregnant women following prophylactic cerclage (PC).

Material and Methods: A retrospective analysis of PC was performed in a single center. Women eligible for history-indicated or ultrasound-indicated PC were included in the analysis. The main outcome measure was cerclage failure, defined by spontaneous early PTB prior to 32 weeks' gestation. Age, BMI, history of instrumentation of the uterus, history of second trimester miscarriage, previous conization, positive vaginal swab prior cerclage, gestational age at time of cerclage, CRP one week after cerclage and post-cerclage US changes of cervical length were tested as predictive factors. Descriptive statistical and binary logistic regression analyses were performed.

Results: One-hundred and forty one women underwent cerclage procedures between 2007 and 2016. Of these, 39 patients had PC with McDonald suture, singleton pregnancy and complete clinical follow-up information, thus fulfilling the inclusion criteria. Three of the 39 women analyzed (7.7%) developed premature rupture of the membranes and 17/39 (44%) had spontaneous PTB before 32 weeks' gestation. Multivariate analysis showed that history of instrumentation of the uterus was the only independent prognostic factor (OR= 0.14 (0.03, 0.72) p = 0.019) for cerclage failure.

Conclusion: This is the first study showing a history of previous uterine instrumentation is an independent predictor of cerclage failure. This finding has significant clinical implications for women of childbearing age, particularly when management of miscarriage-abortion are being considered. Women should be informed about the associated risk when counseled prior to undergoing a surgical evacuation, and whenever feasible medical management or cervical ripening should be considered. These results are also helpful in counseling patients undergoing cerclage, when a prior uterine instrumentation has been performed.
Effect of a rescue course of antenatal corticosteroids on time interval to preterm birth

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Introduction: Administration of antenatal corticosteroids (ACS) is known to improve preterm neonatal outcome. However, prediction of preterm birth remains a challenge and often does not take place within the optimal window of 7 days after ACS administration. In some cases, administration of a rescue (second) course of steroids has been recommended. The aim of our study was to compare demographics and neonatal outcome of women who received only a single course with those who received a rescue course of ACS.

Materials and Methods: In our retrospective cohort study, we included women who received a single course only and those with an additional second course of ACS between May – October 2016 at our department, and followed them up until birth. Included were singleton and twin pregnancies and initial ACS administration between 24 to 34 weeks of gestation due to threatened preterm birth. Exclusion criteria were fetal malformation and incomplete data. Primary outcome was time interval between last ACS and delivery.

Results: Overall, 122 women were included in the study. 113 women received only a single dose of ACS, while nine women received an additional second course of ACS. Women with a single dose of ACS received steroids at a mean of 30 (23 5/7 – 33 5/7) weeks of gestation and delivered at a mean of 34 1/7 (25 6/7 – 40 6/7) weeks. Women with a rescue course of ACS received their first dose at a mean of 25 (23 5/7 – 28 4/7) weeks, the rescue dose at a mean of 32 (26 3/7 – 33 5/7) weeks and delivered at a mean of 33 1/7 weeks of gestation (29 5/7 – 36 5/7). The time interval between last dose of ACS and birth was statistically significant (p=0.003) and was 31 days (single ACS group) versus 12 days (rescue ACS group), although, the difference did not result in more infants being born within 7 days (30% overall). The optimal timing of a rescue ACS course was more frequently achieved in women with IUGR or PPROM (p=0.0432).

Discussion: Our study shows that using a rescue course of ACS, time interval between ACS and delivery can be optimized, in particular in women with early first ACS course. Nevertheless, optimal timing of ACS remains a challenge due to poor predictability of the time of PTB.
Polyhydramnios caused by primary hyperparathyroidism in pregnancy: two case reports

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Introduction: Primary hyperparathyroidism (pHPT) in pregnancy is a rare disease with a significant maternal and neonatal morbidity including polyhydramnios, pre-eclampsia, intrauterine growth retardation (IUGR) and neonatal tetany. It is hypothesized that fetal hypercalcemia leads to fetal polyuria with resultant polyhydramnios and risk of prematurity. The most common pathology of pHPT is a single parathyroid adenoma. In non pregnancy-associated pHPT as well as during first and second trimester parathyroidectomy is the current therapy of choice. So far there are no clear recommendations for pHPT treatment during third trimester. The following cases demonstrate the manifestation of different pregnancy complications and maternal hypercalcemia as a common denominator followed by therapeutic procedures.

Case presentations: Case 1: 36 year old G2P1, 29 wks, with contractions und bilateral flank pain. An ultrasound showed polyhydramnios and nephrocalcinosis of both maternal kidneys. Further diagnostics confirmed pHPT and showed elevated PTH levels and severe hypercalcemia. A parathyroid adenoma was located by ultrasound and resected.
Case 2: 26 year old G1P0, 29 wks, with hypertension, IUGR and polyhydramnios. Severe hypercalcemia was detected and lead to the diagnosis of pHPT. No parathyroid adenoma was detected by ultrasound. Treatment with calcitonin and cinacalcet did not result in normalisation of calcium levels. Therefore indication for explorative surgical approach was given. Intraoperatively a single parathyroid adenoma was located and resected.

Outcome: In a multidisciplinary approach both patients underwent surgery with an immediate reduction of intraoperative PTH followed by decrease in serum calcium. In both patients the surgical procedure was well tolerated by mother and fetus. Importantly hypercalcemia-induced hypertension and polyhydramnios ameliorated.

Conclusions: A combination of isolated polyhydramnios with nephrocalcinosis or hypertension and IUGR can be associated with maternal hypercalcemia. Therefore early diagnosis and treatment of pHPT is crucial for mother and fetus. Our two cases illustrate the importance of interdisciplinary diagnostic and therapeutic approaches in cases of pHPT during pregnancy. If no adenoma can be localized, medical treatment is advisable. If the calcium levels remain high despite medication a surgical approach even in the third trimester seems justified.
Efficacy of thermocoagulation for treatment of cervical intraepithelial neoplasia in Cameroon

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Clinic: Gynecology and Obstetrics, Geneva University Hospitals

Introduction: Cervical cancer is the leading cause of cancer death among women in sub-Saharan Africa. Treating precancerous lesions can prevent their progression to invasive carcinoma. The objective of our study is to assess the efficacy of thermocoagulation for the treatment of cervical intraepithelial neoplasia in a screen-and-treat approach in a resource-constrained setting.

Material and method: Study site was a geographically well-defined area in West Region Cameroon (Dschang) with an estimated population of 250,000 inhabitants. Eligible women, aged between 30 and 49, were enrolled to perform a rapid papillomavirus self-test (Xpert HPV®, Cepheid). HPV-positive women were invited for visual inspection with acetic acid and Lugol (VIA/VILI). HPV-positive women having genotypes 16, 18/45 or having abnormal VIA/VILI were treated with thermocoagulation in the same day visit. Follow-up control visit at 6 and 12 months were proposed for all HPV-positive women. The outcome of interest was defined as no cytology proved high grade squamous intraepithelial lesion (HSIL) at 1 year.

Results: A total of 1012 patients participated to the primary screening. Among the 188 HPV-positive patients, 121 were treated with thermocoagulation. One year following treatment, cure rate for CIN2+ was 70.6%. Failure was partly associated to the treatment of occult endocervical lesions. Indeed, endocervical involvement by CIN 1 or more at baseline diagnosis was associated with a much higher risk of abnormal cytology at 12 months follow-up (adjusted OR = 128.97 [CI 95% 8.80-1890.95], p<0.0001). Moreover, women who had their first sexual intercourse at 15 years old or after were much less likely to develop recurrent or persistent HSIL than those who started their sexual life before 15 years old (adjusted OR = 0.003 [CI 95% 0.001-0.61], p=0.023).

Conclusion: Thermocoagulation, with a cure rate of 70.6% is as successful as other excisional and ablative methods. This technique with its efficacy, safety, acceptability, rapidity, simplicity of use and low cost, seems to be the favorable ablative treatment option for the management of suitable precancerous cervical lesions, particularly in low income countries, in a “screen-and-treat” approach.
Genetic testing in an unselected cohort of patients with ovarian cancer

Author: 1) Knabben L., 1) Gillon T., 2) Rau T., 3) Rabaglio M., 1) Strahm K., 1) Imboden S., 1) Mueller M.D.
Clinic: 1) Obstetrics and Gynecology, 2) Institute of Pathology, University of Bern, 3) Oncology/ 1,3 Inselspital, Bern University Hospital, University of Bern

Introduction: Recent studies showed that BRCA mutations can be found in about 20% of patients with high grade serous ovarian cancer. One third of these mutation carriers have a negative family history. The knowledge about the BRCA carrier status has important clinical implication for patients. Tailored treatment improves prognosis and risk reducing strategies can be offered to unaffected family members. Referral strategies for genetic counseling and testing vary widely worldwide and are based on family history, age at onset, tumor characteristics or risk prediction models. The actual proportion of patients with ovarian cancer (OC) approached for BRCA screening is not well-described. The aim of our study was to analyze referral practices for genetic counseling in patients with OC and to define factors which may influence referring.

Material and methods: We performed a retrospective electronic chart review of all patients with primary diagnosis of ovarian, fallopian tube or peritoneal cancer treated at the university hospital of Berne in 2015. Data regarding patients characteristics, histology, treatment, family history and genetic testing were extracted from patient’s charts.

Results: In 2015 62 patients with invasive ovarian, fallopian tube or peritoneal cancer have been treated in our center. 54 of epithelial cancer were included in our analysis, 44 (81.5%) presented with serous cancer, 37 cases were high grade carcinoma. A family history of cancer was reported in 15 (27.8%) of the patients. Genetic counseling was recommended in 21 (38.9%) of the cases, but only 8 (14.8%) patients were finally counseled. Genetic testing was performed in 7 women. BRCA germline mutations were searched in 5 and testing for Lynch syndrome was performed in 3 patients. Results showed two pathogenic BRCA1 and one MSH-2 mutation. When comparing characteristics of women who were referred to genetic counseling to those who were not, no difference was found for family history or tumor stage. Though patients referred to genetic counseling were significantly younger; median age 57.9y vs. 68.8y, p 0.002.

Conclusion: Our results show that referral rates for genetic counseling in OC is insufficient despite important clinical implications for the patients. Younger age at diagnosis seems to be an important criterion for referral. We currently evaluate different strategies (p. ex. systematic screening for family history in all patients, widespread patient’s information) to improve the referral rate in our centre.
Screening of a common genetic variant on DEFB126 gene on semen donors as a tool to predict D-IUI success rate

Author: 1) Bellavia M., 1) Al Zaman E., 1) De Angelis F., 2) Crugnola E., 1) Cuomo S., 1) Suter T., 1) Jemec M., 2) Filippini Cattaneo G.
Clinic: 1) ProCrea, Fertility Center, Lugano, 2) ProCrea SA, Swiss Fertility Center, Lugano

Introduction: The DEFB126 variant NM_030931.3:c.314_315delCC has been suggested to modify immunoprotection and efficient movement of sperm in the female reproductive tract. In a study of 509 Chinese couples, odds of pregnancy were significantly reduced (to 60%) when the male had the del/del genotype. In vitro, there was 84% reduction in the rate of penetration of a hyaluronic acid (HA) gel by sperm from del/del males. The authors suggested two mechanisms: impaired penetration of cervical mucus and reduced sperm-ovocyte adhesion.

Material and methods: We conducted a retrospective cohort study of 126 women with 205 D-IUI cycles from 37 semen donors, who underwent D-IUI between 2013 and 2015. D-IUI was selected both to remove the barrier of cervical mucus, and to determine whether this test could improve donor selection. Nine donors (46 D-IUI cycles) had the genotype ins/ins; 13 donors (68 cycles) had the genotype del/del; 15 donors (91 cycles) were del/ins heterozygotes. Participants included all women who commenced D-IUI treatment in our fertility center. Exclusion criteria included the presence of female factors and women older than 36. Pregnancy was defined as β-HCG >15 IU/ml; pregnancy rate was estimated for each genotype group of DEFB126 (ins/ins; del/del; del/ins). The DEFB126 variant was tested by PCR and capillary electrophoresis on the donors’ DNA stocked in the genetic laboratory.

Results: In all there were 58 pregnancies in the 205 D-IUI cycles (28.3%). There were 14 pregnancies in the group ins/ins (30.4%); 21 in the group del/del (30.8%) and 23 in the group del/ins (25%). The pregnancy rate of the three groups was not statistically different.

Conclusion: The results show no difference in the pregnancy rate between the three different variants of DEFB126 (ins/ins; del/del; del/ins) and suggest that any effect of the del/del genotype is related to cervical mucus. Therefore IUI would be the treatment of choice in couples with del/del males. Furthermore, DEFB126 analysis is useful in the workup of infertile couples but not in sperm donors selection.
Soluble HLA-G as a non-invasive biomarker from ovulation to early pregnancy in assisted reproduction.

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**Clinic:** 1) ProcreaLab SA, molecular genetics laboratory, Lugano, 2) University of Ferrara, Dept of medical sciences, Ferrara, Italy, 3) Procrea, Swiss fertility centre, Lugano, 4) CML Dr Risch, Centro Medicina di Laboratorio, Pregassona-Lugano

**Introduction:** The artificial induction of ovulation and hyperovulation has greatly increased the efficiency of oocyte retrieval in assisted reproduction, but specific follow-up biomarkers are still unknown. HLA-G molecules are expressed by cytotrophoblast cells as membrane-bound and soluble isoforms (mHLA-G, sHLA-G), with immune-inhibitory functions as ligands of immune-inhibitory receptors (ILT2, ILT4, KIR2DL4). They were detected in the plasma of pregnant women with increased levels during the first trimester and associated with the clinical outcome. The aim of this study was to evaluate the possible use of the plasma level of sHLA-G as a biomarker for ovulation induction and pregnancy outcome.

**Materials and methods:** Eighteen women undergoing in vitro embryo transfer were divided into pregnant (6) and non-pregnant (12), based on β-hCG >5mIU/ml and viable intrauterine pregnancy. Plasma samples were taken before ovulation induction, 2 days before and at oocyte collection, at embryo transfer, after 7 days from transfer and at pregnancy test. Plasma samples were analysed for sHLA-G levels with HLA-G-specific enzyme immunoassay with MEM-G9 as capture antibody and anti-beta-2-microglobulin as detection antibody. The data obtained were compared by paired Student t, Mann-Whitney U and Spearman correlation tests (StatView statistical software).

**Results:** In pregnant women in comparison with non-pregnant women, there were significantly higher initial plasma sHLA-G levels (p=0.042) and a significantly greater increase from the day of oocyte retrieval to that of embryo transfer (p=0.04). These differences were mainly associated with the HLA-G5 isoform. In addition, in the viable pregnancy group in comparison with non-pregnant women, plasma sHLA-G was higher at transfer (p= 0.03). A trend to correlation was observed between plasma sHLA-G and serum β-hCG (human chorionic gonadotropin) in pregnant women (r=0.46, p=0.048).

**Conclusion:** These observations support a significant role of HLA-G molecules during pregnancy. However, this is the first study demonstrating that in successful pregnancies, initial plasma sHLA-G levels and a significant increase from the day of oocyte retrieval to that of embryo transfer occur. We suggest a role as biomarker of ovulation induction protocol response and pregnancy course.
Vulvar Prevalence of HPV (Human Papillomavirus) in Patients with cervical intraepithelial neoplasia (CIN)

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Clinic: Gynecology, Cantonal Hospital Lucerne

Introduction: The incidence of vulvar intraepithelial neoplasia (VIN) has increased about 400% in the last 40 years. For the detection of Lichen sclerosus associated dVIN we recommend yearly controls in a specialized consultation. For the more often occurring HPV-associated HSIL (former uVIN) there is no risk stratification so far, in routine controls there is only the inspection of the vulva included, cytologic examination is not yet established. The cervix uteri has a known clearing rate of 75% within a year. A clearing rate for the vulva has not yet been described in detail. Studies showed HPV-associated anogenital neoplasms after a treated CIN. In this study we evaluate the vulvar HPV prevalence in patients with a known cervical intraepithelial neoplasia (CIN). We also correlate the HPV subtypes in cervix uteri and vulva and the clinical aspect as well as the cytological result.

Methods: This is a prospective monocentric study with inquiry data by questionnaires, clinical routine and non-routine examination of biological samples. Women who undergo a co-nisation due to CIN are enrolled. Patients fill out a questionnaire about their symptoms before and 6 months after the co-nisation. Before the treatment we take 2 samples: one of the cervix, one of the vulva by using the Thinprep-Brush to get a cytological and HPV testing result. We also perform a vulvoscopy and colposcopy. The same procedures are repeated after 6 months.

Findings: Altogether we have analyzed the data of 84 of our planned 125 patients. One Patient had to be excluded from the study because of a negative cervical HPV testing. The co-existing HPV prevalence of the vulva was 82% of our cases with CIN. Die HPV subtypes are mostly identical with the ones at the vulva, Seven percent had only a low risk subtype while having a high risk subtype cervical. Two women showed noticeable findings during clinical examination. The questionnaires are not specific, none of our patients noticed any symptoms. The cytology only showed suspect findings of the vulva in 17 (20%) of our cases.

Conclusion: HPV co-existence of the vulva in patients with CIN is very high. Because patients do not report on symptoms, the history assessment of risk patients is not appropriate. A HPV testing could be helpful to detect and triage risk patients. In the follow up after 6 months we want to define the clearing rate of the vulvar HPV prevalence.
Endometriosis and ovarian cancer: a complex association

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Clinic: Obstetrics and Gynecology, Inselspital, Bern University Hospital, University of Bern

Objectives: An association between endometriosis and ovarian cancer has been proven in a number of epidemiological studies. Nevertheless, endometriosis was not viewed as a pre-cancerous lesion. In more recent publications, an association between recurrent endometriomas and ovarian cancer was identified. In this study we examine the clinical relationship in this collective.

Material and methods: Patient data, tumor characteristics as well as endometriosis location and history were analyzed from the internal hospital database between the years 2009-2016. In all patients the endometriosis was identified during the gynecological oncological surgery and subsequently confirmed via histopathological investigation.

Result: Fifteen patients with both endometriosis and ovarian cancer were identified. The median patient age was 45 years (21-58 years) compared to 67.2 years (2008-2012 Swiss cancer statistics). The most frequent histological types were endometrioid and clear cell carcinomas, 7/15 (46.6%) and 2/15 (13.3%) respectively compared to the usual prevalence of high-grade serous around 40%. The remaining cases were high-grade serous, low-grade serous, and mucinous carcinomas (1 each). 73.3% of cases (N=11) were diagnosed as a FIGO Stage I disease. An endometriosis was identified before the diagnosis of ovarian cancer in only 5 of 15 patients (33.3%). In 9/15 (60%) the endometriotic lesion was found in the cancer affected ovary; of these only 3 were diagnosed with recurrent endometriomas. In 5/15 (33.3%), the indication for surgery was suspicion of an endometrioma; the others had suspicion of an ovarian malignancy. 58% had elevated ca-125 levels (Range 12.2-8125U/l). The preoperative size of the adnexal mass was 83.5mm (20-210mm) in mean.

Conclusion: Ovarian cancer in patients with endometriosis is diagnosed at a younger age and at a earlier stage of disease in comparison with overall Swiss ovarian cancer statistics (2013). Non-serous ovarian cancer is significantly over-represented. Especially in the presence of endometriosis, preoperative diagnosis of ovarian cancer remains difficult; this implies a need for histological diagnosis of persistent and large adnexal masses. In our cohort, recurrent endometriomas were not a risk factor for ovarian cancer.
Does antibiotic treatment of chronic endometritis shorten time to pregnancy in women with recurrent miscarriages or recurrent implantation failure?

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Introduction: Recurrent implantation failures (RIF >= 6 top quality embryos transferred) and recurrent miscarriages (RM >= 3 consecutive miscarriages) impose a heavy emotional burden on women desiring children. Investigation and treatment options are limited. It has been shown that 14-66% of women with RIF and 27-56% of women with RM suffer from chronic endometritis. Chronic endometritis can be diagnosed clinically by diagnostic hysteroscopy (diffuse hyperemia, stromal edema, micro-polyps) and confirmed by histological detection of plasma cells or immunohistochemical staining of CD 138 in the endometrial biopsy. Our aim was to identify and analyze cases with RIF and RM to find a strategy to reduce the risk for RIF and RM.

Methods: Women in therapy for RIF and RM at the Bern University Hospital in 2016 were further examined. After assessment of thyroid pathology, hemostatic function (e.g. antiphosphlipd-syndrom), MTHFR -mutation and karyotyping, a diagnostic hysteroscopy with endometrial biopsy (Pipelle de Cornier) was performed. The endometrial biopsy was analyzed for plasma cells and a immunohistochemical analysis of CD 138 was run. In case of a positive result women were treated with doxycyclin 100mg twice daily for two weeks. Afterwards time to successful implantation, rsp. on-going pregnancy were analyzed.

Results: 12 women were identified . Six with RM (3-6 miscarriages/women) and six with RIF (previously 9-18 good quality embryos transferred). Three women with RIF and three women with RM were diagnosed positive for chronic endometritis without other risk factors for implantation failure. They received an antibiotic treatment. After antibiotic treatment two out of three RM women got and stayed pregnant, one RIF woman had a successful implantation in the first in-vitro-fertilisation (IVF) cycle. Two women did not restart IVF treatment yet.

Conclusion: It is important to search for chronic endometritis in women with RIF or RM if there is no other detectable reason. The positive effect of the antibiotic treatment shown in this small population should lead to a trial to study the impact of an antibiotic therapy in women with chronic endometritis.
An International comparison shows that increasing age affects the number of oocytes retrieved per pick-up

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Introduction: The number of oocytes retrieved per pick-up (nopu) after ovarian stimulation for assisted reproductive techniques (ART) is an important determinant for cumulative pregnancy rates. Since this number decreased in Switzerland in the last years, we compared our data with the Swiss Register and other international registries with respect of age.

Material and methods: We scanned our data, the database of the Swiss Society for Reproductive Medicine (FIVNAT), and other international databases for nopu and mean age. Furthermore we contacted the Fertility Societies directly that did not publish these data.

Results: At our center the nopu declined from 10.4 in 2008 to 8.3 in 2015 as the mean age of women increased from 34.9 to 36.3. Swiss-wide the mean age rose above 36 from 2007 onwards. In the same period of time the nopu decreased from close to 10 to below 9. Compared to the international data from other countries like Serbia, Belgium, France, Australia, Germany and Austria (see table) the swiss nopu is in the lowest range while the age is in the highest range.

<table>
<thead>
<tr>
<th>Country</th>
<th>Nopu</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>7.70</td>
<td>36.3</td>
</tr>
<tr>
<td>Serbia</td>
<td>8.00</td>
<td>n.a.</td>
</tr>
<tr>
<td>Belgium</td>
<td>8.43</td>
<td>34.4</td>
</tr>
<tr>
<td>France</td>
<td>8.70</td>
<td>34.3</td>
</tr>
<tr>
<td>Australia</td>
<td>9.02</td>
<td>35.8</td>
</tr>
<tr>
<td>Germany</td>
<td>9.23</td>
<td>35.2</td>
</tr>
<tr>
<td>Austria</td>
<td>9.70</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Conclusion: The lower number of oocytes retrieved in Switzerland compared to other countries is reflected by a higher age of women. Since the number of oocytes is an important predictor for cumulative pregnancy rates couples should be encouraged to start ART earlier.
A surprising differential diagnosis of vulva tumour-dermatofibrosarcoma pertuberans

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Introduction: The Dermatofibrosarcoma pertuberans is a local aggressive and infiltrating neoplasm of low to intermediate malignancy, metastasis rarely occur. It affects most commonly skin and subcutaneous fat layers close to the torso. Often its appearance is similar to those of atheroma or benign fibroma.

Case Report: We like to present a case of a 54-year-old patient with a relatively uncommon and surprising diagnose of neoplasm of skin localised on the right labia majora. Because the patient is mentally disabled no further information could be provided about the patient’s history and time period of tumour growing. The tumour was by the time of her first visit 10 cm of diameter, it seemed to infiltrate the skin and subcutaneous layers only superficially. Several biopsies showed no malignancy but were suspicious for a benign angiofibroma. Nevertheless, we planned contributing to the size of the tumour a wide local excision, which meant in this case a right side vulvectomy. The final pathology results surprisingly showed a very rare neoplasm of the skin: a dermatofibrosarcoma pertuberans (DFSP) with fibrosarcomatous areas. The resection margins were free with a minimum of 7 mm. A staging before and after operation with CT and PET-CT showed no sign of lymph node invasion or further metastasis. So, the oncological recommendation was to a clinical monitoring every six month.

Conclusion: The main problem within the DFSP because of its infiltrating growth pattern with extension far beyond the clinical margins is its tendency to recur after conventional surgical excision. Therefore, a surgical excision with wide safety distance (2-3 cm) and a complete assessment of free resection margins is needed. Still rates up to 30 % recurrence are described. Rarely there are variants of the DFSP which involve regions with different cell types, as it is the case with our patient. Within the tumour where areas with fibrosarcomatous parts which identifies a more aggressive type of DFSP with a higher rate of mitosis and atypia and higher tendency to metastasize. There is a simple staging system for DFSP due to the fact that is mostly a local disease: Stage I- primary disease, localised disease, Stage II lymph node metastasis, Stage III- distal metastasis. Long term monitoring after surgery includes clinical and (if needed radiological) examination every 6 month up to 3 years after operation and annually afterwards.
Impact factors on fetal descent rates in the active phase of labor: a retrospective cohort study

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Introduction: In recent years, great attention has been paid to the progress of physiological labor and great effort has been made to distinguish physiological from nonphysiological labor, especially in order to avoid cesareans. Besides cervical dilatation, fetal descent is the most important parameter to monitor progress of labor. The aim of this study was therefore to evaluate fetal descent rates and different fetal, maternal and obstetrical impact factors on these rates.

Material and Methods: We evaluated routinely acquired data from 6045 normal births with a singleton pregnancy in vertex presentation, who gave birth spontaneously between January 2007 and July 2014 at 34+0 to 42+0 gestational weeks, by retrospective chart review in the University Hospital of Zurich. Median fetal descent rates and its 10th and 90th percentiles were assessed according to parity by Mann-Whitney U-test and different fetal, maternal and obstetrical impact factors on these rates were evaluated by linear mixed models. Statistical analysis was performed using SPSS version 22.0 and SigmaPlot 12.0.

Results: Fetal descent rates are exponentially increasing. Nulliparous women have slower fetal descent rates than multiparous women at every fetal station (p<0.001), ranging from 0 to 5.81 cm/h and 0 to 15 cm/h, respectively. The total duration of fetal descent is 5.42 hours for nulliparous and 2.71 hours for multiparous women. Factors associated with an acceleration of fetal descent are a lower level of fetal station, multiparity, increasing maternal weight and fetal occipitoanterior position, whereas epidural anesthesia decelerates fetal descent (p<0.001).

Conclusion: Fetal descent rates differ significantly between nulliparous and multiparous women and are extremely interindividual besides. The diagnosis of labor arrest or prolonged labor should therefore be based on such rates as well as on the individual evaluation of every parturient.
Simulation Training in Obstetrics: a survey of Swiss practice

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**Clinic:** 1) Obstetrics, 2) Anesthesia and Simulation Center Basel SIMBA/
1,2 University Hospital Basel

**Introduction:** Simulation Training for Obstetrical skills and emergencies (STOSE) is an issue of current interest but still need evidence of efficacy and structured teaching programs. Some countries recommend regular obstetric emergency team training for all staff member and evaluated the current practice of simulation training in obstetric in their country (Andersen 2015, Maagaard 2012, Phipps 2012, Sanders 2015). We aim to describe the actual use of and views about STOSE in Switzerland.

**Material and Methods:** An online anonym survey was sent to 60 FMH accredited obstetrics and gynecology departments in 3 national languages (G, F, I) in all parts of Switzerland. The survey collected informations about emergency situations trained, multidisciplinarity, evaluation of the trainings, views and need for building future simulations programs. The answers were directed with yes or no answers or Likert Scale.

**Results:** The overall response rate was low, with 21 answers (35 %). 15/21 of these obstetrical departments (OD) organize some form of STOSE. The obstetrical junior and senior doctors (12/12) as well as midwives (11/12) participate widely to the training but interdisciplinary team training with anesthetists (2/7) and neonatologists (3/8) was less frequent. The most trained technical competencies are the instrumental delivery, vaginal breech delivery and shoulder dystocia. Difficult fetal extraction at cesarean section was trained by one OD. The most trained emergency situations who require team training are postpartum hemorrhage, eclampsia and maternal reanimation. No departments has yet established fire drill training for any obstetrical emergencies. 3/8 OD conduct an evaluation of their training program. The views about STOSE were overall very positive about competencies, team work, communication and learning culture (mean 4.4-4.9/5) for all points, but some OD still stated that one of the objective of training was to evaluate competencies of participants. Time, financial and personal investment are reported as important barrier to establishing STOSE (mean 3.1-3.8/5) for all points, especially for multidisciplinary team training. Building structured STOSE in a local setting would be welcome form a majority of OD.

**Conclusion:** Views about STOSE seem to be largely positive. In contrast with other medical specialties or other countries, STOSE doesn’t seem to be an established part of training for all obstetrical units and have large development potential.
Geospatial Variation of Gestational Diabetes in Singapore

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Introduction: Gestational diabetes (GDM) is a common pregnancy complication with short and long-term health consequences for both mother and fetus. Incidence rates vary with maternal age, race, obesity, parity and family history. Given its increasing prevalence in recent decades, covariant socioeconomic and environmental factors may be additional determinants of GDM occurrence. We aim to investigate if there is a geospatial variation of GDM in Singapore.

Materials and Methods: Obstetric cohort data of 66 857 singleton deliveries in KK Women’s and Children’s Hospital (KKH) from 2010 to 2015 was obtained. Patients with no valid postal code and residential areas with less than 50 patients were excluded. Maternal residences based on postal codes were geo-referenced to 30 residential areas in Singapore. GDM rates were measured by residential areas and adjusted for maternal characteristics and regional characteristics (socioeconomic disadvantage index (SEDI), socioeconomic advantage index (SAI) and number of fast food restaurants in the residential areas) using a multiple logistic regression model.

Results: The overall GDM prevalence rate was 7.18%. GDM rates were higher among women above 35 years old (15.5%) and multiparous women (7.68%). Indians had a higher GDM rate (11.3%) compared to the Chinese (7.50%) and Malays (5.59%). Mothers under subsidized paying class (7.24%) had higher GDM rates compared to private paying class (7.13%). The observed GDM rates across residential areas ranged from 6.25% to 10.5% (median 7%). The mean SEDI and SAI were 100.4 (range 79.3-120.1) and 99.4 (range 91.0-126.7) respectively. Interestingly, observed GDM rates are negatively correlated with SEDI (Pearson correlation = -0.371, P = 0.44) demonstrating that higher GDM rates are observed in areas with better socioeconomic indices. Variables that are significantly related to GDM rates are residential area (P=0.038), SEDI (P=0.071), maternal race (P<0.001), maternal age (P<0.001), parity (P=0.015), marital status (P<0.001), resident status (P<0.001), booking status (P<0.001), by multiple logistic regression model.

Conclusion: There is geospatial variation of GDM prevalence in Singapore. This can be explained in part by residential area differences in SEDI.
Anti-Inflammatory Effects of Exosomes Derived from Human Umbilical Cord Mesenchymal Stem Cells on Neuroglia

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Wharton’s jelly mesenchymal stem cells (WJ-MSC) have the capacity to reduce neuroinflammation and induce tissue regeneration in perinatal brain damage despite of their low long-term survival in host tissue. The therapeutic function of WJ-MSC is mainly ascribed to their paracrine secretion involving the shedding of cell-derived exosomes. The aim of this study is to evaluate the anti-inflammatory effects of WJ-MSC-derived exosomes on neuroglia in vitro.

WJ-MSC derived exosomes were isolated from cell culture supernatants using a protocol consisting of several steps of successive centrifugations and ultra-centrifugations. The isolated exosomes were characterized by their expression of endosomal markers and their size using a membrane-based antibody array and electron microscopy. In vitro models involving oxygen glucose deprivation and reoxygenation (OGD-R) and lipopolysaccharide (LPS) stimulation were used to test the anti-inflammatory effects of the exosomes on activated primary astrocytes and immortalized microglia cells. After the co-culture with WJ-MSC derived exosomes, glia cells were evaluated for their expression of activation markers and production of pro-inflammatory cytokines by real-time PCR, enzyme linked immunosorbent assay (ELISA) and Western blot.

WJ-MSC-derived exosomes were positive for endosomal markers, including TSG101 and ALIX, and had a mean diameter of 34 nm. In co-culturing experiments, WJ-MSC-derived exosomes prevented the upregulation of the astrocyte activation marker glial fibrillary acidic protein (Gfap) in response to 6h of OGD and 48h of reoxygenation. WJ-MSC-derived exosomes further tend to suppress the upregulation of pro-inflammatory cytokines such as interleukin 1 beta (IL-1b), tumor necrosis factor alpha (TNF-α) and inducible isoform of nitric oxide synthase (iNOS) in response to 24h LPS stimulation. In conclusion, we demonstrate that WJ-MSC-derived exosomes are potent modulators of neuroglia activation in hypoxia/ischemia and inflammation. Hence not only WJ-MSC, but also WJ-MSC-derived exosomes are able to support tissue regeneration by reducing inflammation. As a result, WJ-MSC-derived exosomes might represent a novel cell-free approach to treat perinatal brain damage.
The Impact of Parametric Documentation on Vacuum-Assisted Vaginal Delivery

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Clinic: Obstetrics, University Hospital Zurich

Introduction: An operative vaginal delivery poses a high risk for both mother and infant. A precisely placed vacuum cup and a proper indication are essential to minimize this risk. Therefore, a checklist-like monitoring with relevant examination findings, including a photographic documentation of the vacuum tag on the neonatal head, is introduced. The placement of the vacuum cup can be retrospectively identified with this method. The objective of this study is to compare the maternal and neonatal outcome after vacuum-assisted vaginal delivery directly after the introduction of a structured documentation for one year as well as for the following years.

Methods: A retrospective analysis of vacuum-extractions (VE) outcome data in the department of Obstetrics at the University Hospital of Zurich includes 231 VE one year prior and 198 VE one year after the introduction of new documentation, as well as 789 VE for the following 3.5 years. The new documentation includes a parametric record of indication for VE, clinical examination prior to VE, number of tractions, perineal laceration and photos with two axes of the infant’s head.

Results: For both periods after the introduction of the new documentation fewer number of tractions to delivery were required (1 traction in 12.7% vs. 15.7% vs. 9.7%, p=0.159; ≥5 tractions 2.4% vs. 0.5% vs. 2.6%) than in the old documentation era. One vacuum-assisted vaginal delivery during the following 3.5 years after introduction failed (1/789, 0.1%). For the period of one year after introduction as well as in the following years significantly (p<0.01) more VE with intact perineum (20% and 16% vs. 9%) and less episiotomies were reported (52% and 53% vs. 69%). The neonatal outcome during the monitored period did not differ regarding the five-minute APGAR score (8.8±0.8 vs. 8.8±0.6 vs. 8.8±0.7), the umbilical cord arterial pH (7.24±0.07 vs. 7.20±0.5 vs. 7.23±0.07) and the transfer to the neonatology department.

Conclusion: The introduction of a parametric documentation in vacuum-assisted vaginal delivery with a precise photo report of the vacuum tag on the infant’s head, clearly lead to an improvement in the maternal outcome. The impact remains stable in the following years. Consequently, the photographic report of the vacuum tag seems to be helpful for the instruction of a correctly placed vacuum-cup.
Vaginal delivery of twins – success rate, rate of emergency Ceasarean section and safe twin-to-twin delivery time

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Clinic: Obstetrics and Gynecology, University Hospital Zurich, University of Zurich

Introduction: Due to a higher complication rate in twin pregnancies and deliveries an induction of labor is often indicated. It is unknown if the induction of labor influences the delivery modus of twins. Furthermore, a safe twin–to–twin time interval has not been established yet. The purpose of this study was to analyze the delivery mode in women with and without induced labor and to investigate the correlation between the twin-to-twin time interval and clinical short term outcome of the second twin.

Methods: All twin deliveries (189 patients) between January 1st 2004 and December 31st 2013 in which the intention for a primary vaginal delivery was given were investigated retrospectively. The cohort was subdivided into the two following groups: group I consisted of women without induction of labor and in group II were women with induction of labor. The two primary endpoints were the delivery modus and the neonatal outcome evaluated by umbilical artery(UA)-pH, Apgar score and rate of referral to the neonatology unit of twin 2 in relation to the twin-to-twin delivery time. A t-test or Mann-Whitney U test and Spearman’s rank test were applied where appropriate. Statistical significance was indicated at p <0.05.

Results: Ninety-seven (51%) women had no induced labor (= group I) and 92 (49%) sustained medical induced labor (= group II). There were no significant differences in the baseline characteristics, as maternal age, parity, ethnicity and chorionicity, of both groups. The vaginal birth rate was significantly higher in the non-induced group compared to the induced group (group I: 71% vs. group II: 52%, p<0.01). The rate of emergency Caesarean sections of the second twin was not significantly higher in group I compared to group II (9% vs 5%, p 0.31). The longer the twin-to-twin time interval was, the lower the UA-pH was (Spearman correlation coefficient -0.33; p<0.001). The best clinical short term outcome of twin 2 was found with a twin-to-twin time interval of ≤15 minutes.

Conclusion: The induction of labor caused a higher risk for a secondary Caesarean section. For a better neonatal outcome a cut-off of 15 minutes for the twin-to-twin time interval is recommended.
Video analysis for learning and teaching purposes in obstetrical care

Author: Kimmich N., Zimmermann R.
Clinic: Obstetrics, University Hospital Zurich

Introduction: The presented poster demonstrates obstetrical situations, where the medium «video» can be used for learning and teaching purposes. Aim of the video analysis is to improve quality and management of obstetrical care of midwives and obstetricians.

Material and Methods: Since 2014, different obstetrical procedures or scenarios of midwives and obstetricians are captured on video in the Obstetrical Department of the University Hospital of Zurich. They are analyzed afterwards with the involved staff. This helps to reflect and visualize the own handling and state of knowledge, to identify personal lack of skills or procedural mistakes and to illustrate the interaction of the involved staff. These scenarios are for instance, vaginal deliveries, including breech and ventouse deliveries, episiotomies, etc. Besides, the residents are captured on video during cesareans to assess their surgical skills and techniques at the beginning and at the end of their surgical training period. Other settings for the video analysis are difficult deliveries during cesarean, for instance inverted breech extractions, in order to demonstrate and train these situations.

Results: Different scenarios and procedures are demonstrated on pictures on this poster. With all scenarios, there are typical noticeable problems. With vaginal deliveries, for example, lack of hygienic handling, reduced protection of the perineum or slowdown of the fetal head and false techniques of episiotomy can be seen. With ventuse, false or insufficient positioning and handling of the cup and the direction of pulling are typical. During cesarean, surgical technique as handling of the instruments, knotting technique, fetal extraction, etc. can be evaluated.

Conclusion: Video analysis of obstetrical procedures is easy to perform and a very helpful tool for learning and teaching purposes in the delivery ward, as it reflects and improves the quality of procedures and interaction of the involved staff.
Implementation of a Postpartum Haemorrhage Algorithm: influence on maternal outcomes in severe PPH after vaginal delivery

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Introduction: The “Algorithm of the Interdisciplinary D-A-CH Consensus Group PPH” has been developed as a tool to promote a new standardized procedure in case of PPH and has been introduced in our hospital in Jan 2012. The following case series aims to evaluate the effectiveness of the algorithm.

Methods: We performed a retrospective case series study between 2009 and 2014 out of 13385 deliveries in total. 319 patients with vaginal delivery and a blood loss of ≥1000 ml were included: 176 in the intervention group (IG) after the introduction of the algorithm (2012-2014) and 143 in the control group (CG) before the introduction of the algorithm (2009-2011). Maternal characteristics, clinical interventions and outcome were compared in the 2 groups.

Results: Maternal and obstetrical characteristics including the causes of PPH were not significantly different between the 2 groups. There was no statistical significant difference in the estimated blood loss, EC transfusion rate, ICU transfer and the haemoglobin value 2 days postpartum. A stop of bleeding could be reached significantly quicker in the IG. Regarding the interventions we made the following observations in the 2 groups: similar frequency of use and mean dose of syntocinon, significant increase in the use of sulprostone and tranexamic acid, whereas the use of misoprostol decreased. ROTEM analysis was used more and fibrinogen was used less often but without a statistical significance. The use of a Bakri balloon increased significantly. The initiation of most of the interventions occurred earlier and they were applied faster after the implementation of the algorithm but without a statistical significance.

Conclusion: The IG was more likely to receive tranexamic acid as well as sulprostone. However there was no significant difference in estimated blood loss, ICU transfer and Hb value 2 days postpartum. There may have been an underestimation of blood loss before the algorithm and an improved estimation after. The more sensibilized staff may have reacted quicker to a higher blood loss in the intervention group, which could have equalized the difference. The time until the different interventions was shorter, but without a statistical difference. Larger studies are needed though to better objectivate the effectiveness of the algorithm. We are sure the algorithm serves as a useful tool to manage PPH in a stepwise approach, avoiding a delay of treatment and encouraging an improved documentation.
Misoprostol vaginal insert vs. misoprostol vaginal tablets: is there a difference in maternal and fetal outcomes?

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Objective: Misoprostol vaginal insert for induction of labor has been recently reported to be superior to dinoprostone vaginal insert in a phase III trial, but has never been compared to vaginal misoprostol in another galenic form. The aim of this study was to compare misoprostol vaginal insert (MVI) with misoprostol vaginal tablets (MVT) for induction of labor in term pregnancies. Moreover, the predictors of maternal and fetal outcome in patients using the MVI for induction have been evaluated.

Study Design: In this retrospective cohort study we included a total of 400 women who underwent induction of labor. We compared 200 consecutive women induced with 200-μg MVI 24-h (Misodel®-group) with a historical control of 200 consecutive women induced with MVT 25-μg (Cytotec®-group) every 4 h. MVI was removed at onset of active labor or if there were fetal heart rate anomalies. Main outcome variables included induction-to-delivery interval, vaginal delivery within 24-h, incidence of tachysystole, and neonatal outcome.

Results: Vaginal delivery occurred in 152 (76%) patients of the MVI group and in 112 (56%) patients of the MVT group within 24-h (p<0.0001). The time from induction to vaginal delivery was 1048±814 min in the MVI group and 1510±1043 min in the MVT group (p<0.0001). Tachysystole was significantly more common in the MVI group (36% vs. 18%; p=0.002). No differences were observed among the two groups with regards to the use of epidural anesthesia, cesarean delivery rate (27% vs. 20%, p=ns) and vaginal-operative deliveries (15.5% vs. 15.5%, p=ns). No uterine rupture occurred. Neonatal outcomes were similar in both groups. Women in the MVI group had a significantly shorter hospital stay as compared with women in the MVT group (MVI 97.63 h ±32 h. vs MVT 118.5 h ±123 h; p<0.0001). Multivariate analysis showed that development of uterine tachysystole in women induced with MVI could not be predicted by demographic and/or clinical factors.

Conclusion: Misoprostol vaginal insert is a safe and more effective induction method compared to misoprostol vaginal tablets. Although more tachysystole occurred in the MVI group, there were no differences in cesarean section, operative vaginal delivery, and neonatal outcomes. Our study suggests that the galenic form and dose of misoprostol determines the prevalence of tachysystole.
Genetic testing in triple negative breast cancer: Trends and mutation prevalence

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Introduction: The association between BRCA mutations and triple negative breast cancer (TNBC) is well known. About 80% of BRCA1 mutation carriers with breast cancer present with TNBC. Furthermore pathogenic BRCA mutations can be found in up to 15% of patients with TNBC regardless of family history and age at diagnosis. Nevertheless receptor negativity is not yet included in all European guidelines for genetic testing.

Material and methods: Retrospective analysis of data from patients with primary breast cancer treated at the university hospital of Berne between January 2011 and December 2015. Histology reports were reviewed and all patients with TNBC were included in the present study. The aim of our work was to estimate the prevalence of BRCA mutations and to analyze the evolution of genetic testing practices in an unselected cohort of patients with TNBC.

Results: Between 2011 and 2015 474 patients with invasive breast cancer were treated in our department. 54 (11.4%) presented with triple negative breast cancer. 20 (37%) had a positive family history for hereditary breast and ovarian cancer (HBOC), in 15% the family data was unknown. Overall genetic counseling was recommended in 17 (31.5%) patients. These patients were significantly younger (median 43.8 vs. 63.5y, p <0.001) and more likely to have a positive family history for HBOC (14 vs. 6, p<0.001) compared to patients to whom genetic counseling was not recommended. Finally 14 (25.9%) women were counseled. Genetic testing for BRCA1 and 2 mutations was performed in all those patients. A BRCA1 mutation was found in 7 patients and a BRCA2 mutation in one patient. One patient presented with a variance of unknown significance. Genetic testing for BRCA1 and 2 was negative in 5 cases. Analyze of genetic testing practices over the time period of five years showed a twice fold increase in BRCA1 and 2 testing between 2011 and 2015 (18.2% vs. 41.7%).

Conclusion: Pathogenic BRCA1 and 2 mutations were found in 14.8% of our patients with triple negative breast cancer. When genetic testing is only based on family history and age at diagnosis at least one mutation would have been missed in our cohort. This shows the importance of considering receptor negativity for the selection of patients for genetic testing. Our analysis shows that genetic testing in triple negative breast cancer increased significantly between 2011 and 2015 with abrupt rise in 2013. This reflects the raising awareness of physicians for genetic implications in breast cancer.
Preimplantation genetic diagnosis for aneuploidies (PGS/PGD-A) by analysis of first and second Polar Body: 2 healthy babies born after implantation of chromosomally-rescued oocytes

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Introduction: PGD-A (formerly called PGS) has been performed for many years to increase the chance of pregnancy, especially in older women. Chromosome aneuploidy is a major cause of pregnancy failure and is largely of maternal meiotic origin (>95%), increasing exponentially in oocytes from approximately 35 years of age. Molecular analysis of polar bodies provides indirect assessment of an individual oocyte’s chromosomal status by determining whether the chromosomes correctly segregated during meiosis I and II. In about one third of cases, missegregation of one or two chromosomes in meiosis I can be rescued in meiosis II, leading to a euploid oocyte. Despite the fact that meiotic rescue is a well-known phenomenon, little is known about live births after oocyte rescue. We present here two cases of healthy babies born after meiotic rescue.

Material and methods: A 42- (case 1) and a 44-year old woman (case 2) underwent ART treatment with PGD-A on polar bodies (PB) in our clinic, after respectively a history of 3 and 2 prior ART failures. Both cases underwent ICSI with first and second PB biopsy and comprehensive chromosome analysis by Array-CGH.

Results: Case 1: a single euploid fertilized oocyte was transferred, after double rescue of chromosomes 3 and 18 (PB1 -3, -18; PB2: +3, +18) at day 2, resulting in a singleton pregnancy. Case 2: a single euploid fertilized oocyte was transferred after rescue of chromosome 16 (PB1: -16; PB2:+16) at day 3. In both cases the rescued oocyte was the only euploid oocyte out of 12 retrieved oocytes. The two women gave birth at term to healthy babies (a girl of 3280 g and a boy of 3500 g). In both cases, the aneuploidy in the first PB was caused by a premature separation of sister chromatids (PSSC) followed by a compensation in the second PB. It is well known that PSSC in the 1st PB and not nondisjunction is the principal cause of maternally-derived aneuploidy.

Conclusion: By analysing first and second PB with Array CGH, we could accurately determine the ploidy of the oocyte, after PSSC of the 1st and compensation of the 2nd PB. In both cases, the rescued oocytes were competent for generating a pregnancy resulting in the birth of healthy babies. This is one of the first report of healthy births after chromosomally-rescued oocytes.
Long term complications after mastectomy

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**Introduction:** Post mastectomy pain (PMP) and phantom breast syndrome (PBS) are potential long term complications after mastectomy. PBS is defined as a prickling, itching or burning sensation in the breast that has been removed. The aim of our study was to investigate the prevalence of PMP and PBS and the possible factors that cause it. Furthermore we wanted to investigate the rate of breast reconstruction.

**Patients and Methods:** The study was approved by the local ethical committee. All patients were informed about the study and signed an informed consent. We included 173 female patients who had undergone either a uni- (152 patients) or bilateral (21 patients) mastectomy between January 2010 and December 2015 at the department of women at the University Hospital of Basel. All patients received a questionnaire. Patients not responding were phoned up for a questionnaire based interview. Statistical comparisons between study groups were done using Mann-Whitney U-tests or Fisher’s exact tests as appropriate.

**Results:** The completed questionnaire was returned by 69 (39.9%) patients. 20 Patients (29%) reported PMP and 49 (71%) no pain (NP). The median age was 56.9 years for the PMP-group and 68.5 years for the NP-group. We could not find any predictor for PMP. There was no significant difference in tumour size, receptor status, adjuvant therapy or socioeconomic factors. The frequency of PMP varied from once a month (40%), once a week (40%) to daily (20%). Among the women with PMP 5 (26.3%) reported that the PMP had a negative effect on their daily life. Seven out of 20 patients with PMP experienced also PBS. Three patients noticed a prickling, and 4 patients a burning or itching sensation. Two out of seven PBS patients felt disturbed but did not report a negative impact on their daily life. While 17 (25.8%) patients discussed a breast reconstruction with their doctor only 12 (18.2%) patients underwent such operation. Reasons not to perform a reconstruction were fear (n=6,11.8%), too big of an effort (n=25,49%), age (n=36,70%) and not offered by the doctor (n=1,1.9%).

**Conclusion:** PMP is a long term complication that affects 29% whereas phantom breast syndrome affects 10% of women in our study population. PMP may have a negative impact in a woman's daily life. 25.8% of the patients considered a breast reconstruction, while 18.2% underwent such a procedure. To identify possible reasons for PMP further studies are needed with bigger numbers of patients.
Increase of G3 endometrioid adenocarcinoma with higher prevalence of diabetes mellitus: causally or independently?

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Introduction: Endometrial cancer can be divided in two types: Type 1 (endometrioid G1 and G2), hormonally driven and Type 2 (G3 endometrioid, clear cell, serous). Main risk factor for Type 1 is the autonomic oestrogen production in fat tissue. Type 2 endometrial cancer is frequently found in older, nonobese women, is oestrogen independent and associated with endometrial atrophy. A significant increase from 18 to 32 % of G3 endometrioid adenocarcinomas has been observed from 2006 to 2014 in Switzerland (p<0.001), without an increase in age at diagnosis. There were no changes in the histopathological diagnostic criteria. The treatment and prognosis are different: The G3 tumours need a hysterectomy with adnexectomy like the G1 and G2 but additionally also a pelvic and paraaortal lymphadenectomy.

Methods: Data of the ASF Statistic were used to analyze changes in incidence of endometrioid cancer disease, grading groups and risk factors between 2006 and 2014. 2611 patients were analyzed.

Results: In the G3 group half of the patients were normal weight (BMI<25kg/m2), while 25% were obese (BMI> 30kg/m2). In the G1 and G2 cancers only around one-third were normal weight, while 37% respectively 33 % have an adiposity. There was no change in BMI values over the 9 years assessment period. Adiposity is often part of a metabolic syndrome (hypertension, dyslipidaemia, insulin resistance, abdominal adiposity). Therefore, we would expect these comorbidities more often in the adiposity-associated G1 and G2 group. In our collective, every second patient was diagnosed with hypertension, without any significant differences over the last 9 years. Interestingly there were fewer patients with diabetes mellitus (DM) in G1 and G2 (13% and 12%) than in G3 (17%). Over all groups there was a slight increase (+3%) of diagnosed DM. In the last years every fifth patient with a G3 cancer has also a DM.

Conclusion: We found a higher prevalence of DM in patients with G3 endometrioid adenocarcinomas. It’s well-established that high blood glucose can promote the production of tumour cells and support angiogenesis. This may result in higher rates of G3 tumors. It’s difficult to interpret our data without additional information of medication and length of the disease. And it can be assumed that one third of patients with DM are undiagnosed. Our results should sensitize to look for comorbidities. Larger observational studies could potentially detect correlations and lead to preventive measures.
Feasibility of a mobile health (mHealth) data collection system for women participating in a cervical cancer screening campaign: A pilot study in Madagascar

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Introduction: An important barrier to efficient cervical cancer (CC) screening in developing countries is the lack of rigorous and systematic registration of the participants’ data. The aim of this study is to assess the feasibility of a mobile health (mHealth) data collection system named CCPS (Cervical Cancer Prevention System) was developed according to the World Health Organisation’s (WHO) guidelines.

Material and Methods: In July 2016, all non-pregnant women aged 30-65 years, participating in a CC screening campaign at the Saint Damien Health-Care Centre in Ambanja, Madagascar, were recruited in the study. The enrolled participants’ socio-demographic data, screening test results, choice of treatment and cervical images taken throughout the pelvic exam were registered through CCPS.

Results: A total of 150 women were recruited in the study. All patients’ data were successfully recorded through the mHealth application. The patients’ records were then transferred directly from the mobile application onto a secured, computer-based database. The use of CCPS was very well accepted by both the medical personnel and the patients.

Conclusion: The use of this innovative mHealth system is feasible and allows to create a computer-based patient record that is accessible to on- and off-site health-care workers, improving the quality of care in CC screening.
Sonographic evaluation of uterine fibroids using the Leuven Score as a predictor of leiomyosarcoma: preliminary data from an ongoing observational study

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Introduction: Fibroids are the most common tumors of the genital tract with an incidence of 70% by the age of 50. Many treatment options exist, but hysterectomy remains the main therapy. Morcellation was developed to allow the removal of large fibroids via laparoscopy. Due to the risk of disease spread in incidental cases of sarcoma (1/352 hysterectomies for presumed fibroids) in 2014, the FDA issued a warning. No reliable preoperative criteria exist which help to distinguish benign fibroids from sarcomas except suggested 6 sonographic criteria (Amant et al. 2014). Here we used these criteria for preoperative triage and propose it as a predictive Leuven Score (LS). The aim of this study was to prospectively evaluate the clinical helpfulness of the LS.

Material and Methods: We prospectively applied the LS for 2 years in all patients evaluated by ultrasound for myometrial masses (n=789). The following parameters were evaluated: presence or absence of rapid growth in 3 months; hypervascularisation; atypical growth (particularly postmenopausal); irregular lining; central necrosis; single oval solitary lesion. The LS was used binary with either a negative or positive score (0, none of the criteria or 1-6 criteria). Only patients who had surgery were included in this analysis (n=166). A Leuven Score ≥1 was evaluated for its test quality in the prediction of leiomyosarcoma.

Results: The study included 162 (97.6%) patients with fibroids and 4 (2.4%) patients with uterine leiomyosarcoma. Most patients (80.1%) were premenopausal. In the fibroid diagnosis group, the median age was 47.4 years (range 30-82); 131 (80.9%) were premenopausal, 31 (19.1%) were postmenopausal. Hereby, 138 (85.2%) had a negative and 24 (14.8%) had a positive LS (median score 0.15, range 0-2). Among the four cases of sarcoma, the median age was 61.5 years (range 49-79), 50% pre- and 50% postmenopausal. All of them showed an LS ≥1 with a median score of 3 (range 2-4).

Conclusion: The LS appears to be a feasible and helpful preoperative triage tool for the effective differentiation of fibroids versus sarcomas. In our institution any LS ≥1 requires the surgery being performed by a gynecological oncologist without morcellation. Interestingly, all cases of sarcoma were found to have a LS ≥2. Unfortunately, due to the small numbers of sarcomas it is not clear if a score of above 1 has a higher predictive power. Future prognostic diagnostic trials are required to achieve positive predictive data.
Long-term efficacy of bipolar radiofrequency endometrial ablation for abnormal uterine bleeding

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Introduction: Abnormal uterine bleeding is a common condition, which accounts for a fourth of all indications for hysterectomy. Surgical approaches include hysterectomy and transcervical endometrial destruction. Of these treatment modalities, bipolar radiofrequency endometrial ablation has been studied extensively and has been shown to be one of the most efficacious in randomized studies. However, data on long-term success rates are lacking.

Material and methods: This retrospective study included data extraction from medical records of all women aged 25-55 years identified to undergo endometrial ablation using the NovaSure® system (Hologic, Inc, Bedford, MA, USA) between January 2009 and June 2016. Variables analyzed were basic demographic characteristics and sonographic assessments. Treatment success was defined as amenorrhea or spotting. Multivariate logistic regression included age, parity, BMI, presence of fibroids, and hysterometer (length of uterine cavity).

Results: 207 women were assigned to have endometrial ablation with Novasure®. 195 underwent the procedure while in seven patients the procedure could not be performed due to technical failure (e.g., insufficient vacuum) and in five due to anatomical incompatibility (e.g., small cavity size). The mean age was 44 years (SD, ±5), median parity was 2 (IQR 2-3), mean hysterometer was 8.7 cm (SD ±1.1), median BMI was 23.5 (IQR 21-27), and in 19.5% fibroids were identified on preoperative sonography. Since presence of large fibroids was an exclusion criteria for this procedure, these fibroids were > 2.6 cm in diameter and intramural. Follow-up data were available for 96% (187/195) of patients, at a mean of 22 months (SD ±20). The success rate for this cohort was 86%. Two patients had postoperative complications associated with heavy bleeding, one patient had fever, and one case of vaginal infection occurred one month postoperatively. Of the women with fibroids, only 28 had a successful outcome (76%). Multivariate analysis showed fibroids (p=0.041, OR 2.9, CI 95%: 1.1-7.9) to be significantly associated with a poorer outcome. Of the 26 cases of failed treatment, ten eventually had a hysterectomy.

Conclusion: Treatment with bipolar radiofrequency ablation is highly successful in the absence of fibroids (88%). Even small intramural fibroids negatively influenced the results (76% success rate). Preoperative transvaginal sonographic assessment is strongly recommended.
Genital ulcer with an atypical diagnosis in a 30 years old woman – a case report

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Introduction: Genital ulcer diseases are often of infectious origin, i.e. Herpes simplex Virus, Treponema pallidum or Haemophilus ducreyi. However, there are non-infectious causes like trauma, carcinomas, drugs, dermatoses and inflammatory vessel diseases as Behçet’s or Wegener’s disease. We present a case of genital ulcers with atypical origin.

Case Report: Admission of a 30 years old woman with an acute urinary retention due to progressive genital ulcers. Three weeks before the complaints started with severe general malaise, arthralgia’s, fever and transient exanthemas of the lower legs and the arms. First, these symptoms were treated as a common cold and because of inflammatory signs in the blood she got antibiotic treatment with Amoxicillin/Clavulanic acid for two weeks. Thereafter, the patient showed livid nodal alterations of the vulva which became necrotic and progressed to ulcers. A local therapy with Topsym (Fluocinonid) and Mycolog (Fluocinonid, Gramicidin, Neomycin, Nystatin) was initiated. At Admission painful vulvar ulcers involving about 2/3 of the Labia majora on both sides, an acute urinary retention and a leukopenia of 3300/ul and thrombocytopenia of 75000/ul appeared. We performed a biopsy of the ulcers, smears were taken and a suprapubic catheter was placed. The results showed a cutaneous manifestation of a myelodysplastic syndrome with an increase in blast cells and an additional genital infection with Herpes-simplex-Virus Type 1. Considering these findings, the patient was transferred to the oncological department and got an induction chemotherapy followed by an allogeneic stem cell transplantation. Herpes genitalis was treated with Valaciclovir. After healing of the vulvar ulcers suprapubic catheter could be removed.

Conclusion: In cases of progressive genital ulcers detailed diagnostics including biopsy should be done and uncommon and atypical causes should be considered.
Aggressive Angiomyxoma of the perineum in a 50-year-old woman

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Introduction: Aggressive angiomyxoma (AA) is a rare soft tissue mesenchymal tumor, locally infiltrative with a tendency to repeated local recurrence. The first description was in 1983. It occurs normally in the vulvovaginal region, perineum and pelvis of females in reproductive age. But there are rare cases of AA in the inguinoscrotal region of males. Metastasis has been described. Local wide excision of the tumor is the primary management. The local recurrence rate is 25 to 47%. The expression of estrogen and progesterone receptors in AA suggests a hormone dependency of the tumor. Descriptions of medicament treatment exist with gonadotropin-releasing hormone agonists.

Case report: A 50-year-old woman reported first in 2013 with a painless swelling of 3x2cm at the perineum. She underwent surgical excision. Pathologic findings reported the tumor as an AA. The margins were not tumor free. The patient didn't appear to the follow-up examinations. In 2016 she reported again with a painless swelling of 2x2cm at the perineum and underwent a local wide resection. The tumor was deep in the perineal tissue and for a complete resection it was necessary to resect a part of the bulbospongious muscle and the soft tissue of the perineum above the rectum. Then the perineal body had to be reconstructed. The wound healing was without difficulties, resectional margins were tight tumor free and the immunhistochemical examination showed a hormonal receptor positivity of estrogen and progesterone.

Conclusion: AA is a rare disease, but when treating women with a painless swelling in the vulvovaginal region, perineum or pelvis AA should be considered as a differential diagnosis. There is no standardised surgical procedure described, but complete resection seems to be important. Even tumor free margins don't prevent a recurrence. In literature a hormonal treatment with GnRH agonists is discussed to reduce the extent of surgical radicality and enhance the chance for tumor free margins or as a therapy for several recurrence.
Video Presentation

V = Video Presentation
Robotically assisted laparoscopic high uterosacral vault suspension for treating apical defect at the time of hysterectomy: a case report and video

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Introduction: Apical defect in pelvic organ prolapse (POP) may be treated laparoscopically with mesh, or vaginally without mesh with high uterosacral ligament suspension (ULS) or sacrospinous ligament fixation (SSLF), with or without hysterectomy. High uterosacral vault suspension performed vaginally is at risk of ureteral injury. In mesh reconstructive surgery, hysterectomy is a risk factor for mesh erosion. We present in a video a case of hysterectomy with treatment of apical POP by laparoscopic high uterosacral vault suspension with robotic assistance.

Methods: A 51 years old patient, gravida 3- para 2, with history of ectopic pregnancy and laparoscopic myomectomy ten years before was referred to our clinic for POP stage 3 and myomatous uterus. She complained of pelvic tenderness and discomfort. At clinical examination, there was a uterine prolapse overpassing the hymen of 3 cm due to pericervical fascial defect with an enlarged cervix. Ultrasonography showed a slightly enlarged uterus with two myomas of 4 and 2 centimeters respectively.

Results: We used the Da Vinci Xi robot with an 8 mm umbilical port for a 0° optique and two 8 mm lateral ports for the instruments. The Hohl mobilisator was used to manipulate the uterus. Hysterectomy was performed in a standard way. Vaginal vault was closed by four Vicryl 0 X points. Vaginal vault was suspended bilaterally to the distal and middle part of the uterosacral ligaments by two Vicryl 0 sutures. Both ureter were clearly identified. Cystoscopy was performed in the end of the operation with bilateral ejaculation. Postoperative period was uneventful.

Conclusion: Laparoscopic high uterosacral vaginal vault suspension with or without robotic assistance may be an alternative treatment to the traditional vaginal route in case of apical defect combined with uterine pathology, lowering the risk of ureteral injury. It may also replace the use of mesh during laparoscopic treatment of pelvic organ prolapse thus avoiding the potential risk of mesh erosion which is increased in case of associated hysterectomy.
The 6-Step Sacrocolpopexy Tutorial Video – Tips and Tricks for Beginners and Intermediates

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Introduction: Sacrocolpopexy (SCP) has been proven to be the gold standard in treatment of apical pelvic floor defects. Despite growing interest in this technique, reproducibility remains one of the main problems as advanced laparoscopic skills are required. To aid with the initial challenge of this procedure we've created a learning video summarizing tips and tricks of our 700+ case experience.

Material and Methods: Hysterectomy (HE) and salpingoophorectomy are optional. We prefer supracervical HE compared to total HE to avoid vaginal mesh erosion. There is insufficient data on uterus conserving SCP. Step 1: Exposure of the promontory and pararectal dissection. Important tips include finding the right spot for peritoneal entry ventral of the promontory, which should be done between the midline and the right commune iliac vessels. Put tension on the peritoneum and enter next to the midline on the right side to avoid any bleeding. When incising the pararectal space, remember the nerves and stay superficial, pushing them caudally. Step 2: Dissect your spaces! Preparation down to the levator ani muscle. Use 2 manipulators. One in the vagina, another in the rectum. This allows for good tension to safely open the rectovaginal space down to the levator ani muscle. Keep close to the vagina and remember: The fat belongs to the bowel! Start laterally first and then switch to the midline. Step 3: Anterior dissection to the bladder trigone. The assistant grabs the full thickness of the bladder in a 90° angle to the vaginal axis to allow for safe dissection. The symphysis is our landmark for reaching the level of the bladder trigone. Step 4: Place your mesh! Fixation to the levator ani, anterior and posterior vaginal wall and to the cervix. Different fixation techniques are used to connect the mesh to the tissue. Whatever you use, avoid perforating the vaginal wall and cut the mesh to size if necessary. Step 5: Fix your mesh! Suture to the anterior ligament. With the classical gynecologic trocar entry points, this suture is best done left handed. 2 stitches are enough for safe fixation. Step 6: Close it up! Peritoneal closure is mandatory, so no mesh parts are left uncovered. Simple techniques use vicryl running sutures.

Results & Conclusion: As SCP is becoming a common intervention in many centers, more junior gynecologic surgeons are required to learn this procedure. Our teaching video aims at standardizing SCP, helping younger colleagues to improve their technique.
Laparoscopic pectopexy – an alternative option for laparoscopic sacral colpopexy?

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Introduction: Laparoscopic sacral colpopexy for vaginal vault prolapse has been established for over 20 years now. By offering a minimal invasive approach to the repair of apical defects of the pelvic floor, it has become the gold standard surgical intervention performed especially in younger women with uterovaginal/vaginal vault prolapse after but also without hysterectomy. While the potential morbidity associated to the procedure like hemorrhage, bladder/ureter and bowel lesions as well as mesh erosion is generally present, altering the specific intervention-linked conditions such as the intra- and retroperitoneal preparation and the point of mesh fixation can result in favorable outcomes.

Methods: We present the technique of laparoscopic pectopexy. By using the iliopectineal ligament (Cooper ligament) on both sides for mesh attachment, the fixation of the cervix/vaginal apex occurs in a hammock-like manner at the S2 level preserving a physiologic slant of the vagina. The mesh follows preexisting structures like the round and broad ligament avoiding sensitive structures like the ureter or the bowel. Moreover, the procedure doesn’t invade the presacral space and there is no need of preparation in the area of the hypogastric trunk. Hence, it seems to be favorable in obese patients or conditions of adhesion situs as after sigma diverticulitis or endometriosis with limited access to the anterior longitudinal ligament. The critical point of the procedure is the preparation in proximity to the obturator nerve.

Results: Laparoscopic sacral colpopexy and pectopexy offer minimal invasive opportunities for repair of apical defects after (supracervical) hysterectomy. Several studies have confirmed high subjective and objective cure rates concerning recurrent prolapse and dyspareunia in sacral colpopexy. However, mesh fixation to the anterior longitudinal ligament or the promontory narrows the pelvic space, changes the initial position of the vagina and carries the risk of spondylodiscitis and osteomyelitis. Laparoscopic pectopexy preserves the physiological axis of the vagina and doesn’t interfer in the presacral space, thus leading to less de-novo defecation disorders.

Conclusion: Laparoscopic pectopexy is an alternative to laparoscopic sacral colpopexy, especially in cases of presacral adhesions and obesity.
Repeat sacrocolpopexy for recurrent vaginal vault prolapse

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Introduction: Sacrocolpopexy (SCP) is regarded as the gold standard to treat apical prolapse with a success rate of around 90 percent. We will undoubtedly be asked to manage recurrent prolapse after sacrocolpopexy.

Methods: Between 2013 and 2016 we assessed all women undergoing repeat sacrocolpopexy for recurrent apical or multicompartment prolapse after sacrocolpopexy. Surgical techniques were analysed to prove feasibility and safety. Pre- and postoperative POP-Q stage were taken. Subjective parameter were evaluated utilising the Australian pelvic floor questionnaire and the patient global impression of improvement (PGI-I).

Results: Four women underwent a repeat SCP. In 3 cases the mesh was still attached the sacral promontory and in one case the mesh was detached. Marked fibroses along the mesh in the pelvic cavity and dissection of the vesco-vaginal and recto-vaginal space was difficult due to the fibrosed from the underlying mesh. 3 months after the surgical intervention objective and subjective outcome measures improved significantly.

Discussion: However, repeat SCP is challenging the intervention is feasible and safe with high objective and subjective outcome. Further evaluation is required.
LAPAROSCOPIC SACROCOLPOPEXY AND RECTOPEXY IN A PATIENT WITH UTERINE AND CONCOMITANT SEVERE RECTAL PROLAPSE

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Introduction and Objectives: Laparoscopic sacrocolpopexy has become the gold standard in the treatment of pelvic organ prolapse (POP) especially in the apical compartment as more and more data is available today showing an excellent anatomical and functional outcome even for long term follow up. When rectal prolapse occurs, it is often accompanied by uterine or vaginal wall prolapse and poses a challenge for the urogynecologic surgeon, as only few are experienced in rectal prolapse surgery. In our experience, combined laparoscopic sacrocolpopexy and rectopexy (LSCRP) is an ideal option for the treatment of this problem. As this is a rare situation, there is lack of data concerning this procedure but LSCRP seems to be the method of choice for the treatment of symptomatic rectal and concomitant uterine prolapse.

Material and methods: This video shows our technique of LSCRP in a 66 year old woman with a symptomatic rectal prolapse, leading to stool incontinence combined with stage II uterine prolapse, stage II rectocele and stage I cystocele according to the IUGA classification, as well as stool outlet syndrome. The surgical technique is demonstrated as follows. After dissecting the vesicovaginal space down to the trigone of the bladder and the rectovaginal space to the sphincter ani muscle, the rectum is completely mobilized without compromising its vascularization. An anterior mesh (polypropylene) is placed under the bladder and the posterior mesh is caudally attached to the pubococcygeal muscle, the dorsal vaginal wall and the anterior wall of the rectum at about 3cm from the anus. The rectal fixation is done with seromuscular sutures. For all sutures we use ethibond 2-0 non resorbable filaments. Both meshes are finally attached to the longitudinal ligament at S1 so tension free fixation is achieved. Peritonealisation is performed at the end. In the video, the degree of prolapse is demonstrated by Valsalva maneuver before and after surgery, to demonstrate the success of this surgery.

Results and conclusion: Final examination in this patient after 2 month showed no signs of any prolapse and complete relieve from stool outlet symptoms ad incontinence. In absence of good evidence our experience of about 15 cases shows, that a combination of laparoscopic sacrocolpopexy and rectopexy is well feasible and safe for patients with rectal prolapse and POP.
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Sacroclopopexy of a sigmoid neovagina

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**Introduction:** A sigmoid neovagina is particularly challenging as it comes to surgery for prolapse due to special anatomical situation and the previous surgical interventions performed.

**Case Report:** In this video we present a sacroclopopexy of a sigmoid neovagina with mesh. In a 41 year old woman a recurrence of a prolapse of a sigmoid vagina occurred only a few month after a laparoscopic sacroclopopexy without mesh was performed. Due to a botryoid sacroma at the age of 2 a hysterectomy and colpectomy had to be performed. At the age of 20 a sigmoid neovagina was placed. In order to treat the recurrent prolapse a laparoscopic sacroclopopexy with mesh was performed as demonstrated in this video.

**Conclusion:** To be able to perform a sacroclopopexy in a sigmoid neovagina, the technique to create such a neovagina has to be well known to the surgeon as it is crucial to spare the vascular pedicle of the neovagina. Furthermore, adhesions and scarry tissue are common which also requires an experienced surgeon. This video shows, that a sacroclopopexy in a sigmoid vagina is feasible, an abdominal access is necessary. It is crucial to spare the vascular pedicle to avoid necrosis of the neovagina.
Apical repair potpourri – variations of the fixation technique

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Introduction: Pelvic organ prolapse (POP) repair frequently necessitates suspension of the apical compartment. Laparoscopic sacrocolpopexy appears to be the superior treatment of choice in (sexually) active patients. However, the sacrocolpopexy technique is poorly standardized, and individual characteristics occasionally require alterations of the surgical procedure. In this didactic video we compare four approaches: Laparoscopic sacrocolpopexy, laparoscopic hysteropexy, laparoscopic lateral suspension and rectus fascia suspension of the vagina.

Cases and Method: The decision whether to preserve the uterus or not is largely dependent on the patients’ desire to keep the uterus. Both subtotal hysterectomy with concomitant sacrocolpopexy and uterus-preserving hysteropexy are shown in this film. Moreover, the video shows two cases of alternative mesh fixations which can be used in selected patients. The first was a 38 year old gravida 2 para 2 with no further desire for children and a symptomatic second degree POP, dyspareunia and normal pre-operative urodynamic examination. The promontory was not suitable for fixation because of posterior spondylodesis screws. Thus, a lateral suspension was used. Twelve months after the operation the patient is asymptomatic, has no signs of POP recurrency and the dyspareunia disappeared. The same method was recently used in a patient with recurrent POP where the promontory was covered with exhaustive bowel adhesions 15 years after open sacrocolpopexy (not shown). The second patient was 49 years old with a third degree POP and a large cystocele. Since she previously had an extensive anterior spondylodesis the promontory was not accessible. An anterior fixation of the mesh to the rectus fascia was chosen for POP repair. Twenty-four months after the operation no recurrent POP occurred and the patient is content with the result.

Conclusion: Laparoscopic sacrocolpopexy is considered to be highly efficacious in apical prolapse repair. This video provides an overview of the surgical technique and various possibilities for mesh fixation.
A Novel Combined Transurethral and Suprapubic Approach for Resection of Bladder Mesh

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**Introduction:** A 68-year-old woman who presented with a 6-month history with irritative voiding symptoms and recurrent urinary tract infections was found to have persistent perforation into the bladder of a tension-free vaginal tape placed 48 months before. The patient had undergone two previous mesh removals transurethrally at an outside institution. The patient continued to have recurrent urinary tract infections and was referred to our institution. Cystoscopy revealed stone formation and persistent mesh perforation.

**Material and methods:** To achieve radical excision, a novel combined transurethral and suprapubic approach was planned. Following general anesthesia the patient was prepared in the dorsal lithotomy position. A cystoscope was inserted transurethrally and the bladder was filled with normal saline. Two suprapubic punctures were next carried out and 3.5-mm trocars were inserted into the bladder under direct cystoscopic vision. One surgeon used a 3.5 mm camera optics and a 3.5 mm grasper from the suprapubic side to pull on the stone and the perforated mesh, while the other surgeon used scissors transurethrally to resect the mesh and stone. At the end of the procedure, we left a Foley catheter with continuous lavation.

**Results:** The patient’s postoperative course was uneventful. At 1-month follow-up, the patient was asymptomatic and cystoscopy revealed partial healing of the mesh site. At 6-month follow-up, the patient continued to be asymptomatic and cystoscopy demonstrated complete healing of the mesh site. No further mesh erosion was present.

**Conclusion:** This combined transurethral and suprapubic maneuver allowed for adequate tension on the perforated mesh enabling to be removed adequately. Additionally the use of two cameras allowed for better visualization in locating the perforation and adequately removing it. The suprapubic camera adds additional spatial orientation and ease that leads to removal of the perforated mesh in its entirety at the challenging location of bladder neck and bladder base region. This novel technique provides an effective means of radically removing a mesh perforated into the bladder using a combined transurethral and suprapubic approach.
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Indocyanine green (ICG) fluorescence mapping for sentinel lymph node detection in early breast cancer with intraoperative real time imaging

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Introduction: Sentinel lymph node (SLN) biopsy using indocyanine green (ICG) fluorescence is safe and has a high detection rate for SLNs. This novel technique gives an alternative to the classical procedure with radiocolloid like Tc99 and is easy to use as demonstrated in this video.

Materials and Methods: The System allows an intraoperative real time imaging of fluorescent agents. We examined patients with early stage breast cancer lacking metastases in the axillary lymph node (ALN). Two methods for targeted SNL were used. Radiocolloid and ICG were injected into the sub-areolar region, the day before surgery resp. immediately before surgery. The draining fluorescent lymphatic duct was visualized using real time imaging of fluorescent agents. We removed the SLNs that were identified by the fluorescence imaging methods and checked the Tc99 radioactive positivity before sending the SLN to pathology.

Conclusion: ICG fluorescence imaging is a new and accurate method for SLN biopsy in early breast cancer. One advantage of this technique is that it allows transcutaneous visualization of lymphatic vessels and intraoperative lymph node detection without radioisotope and in real time.
Computer tomography-guided percutaneous Indocyanine Green injection for mapping metastatic suspected lesions

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Introduction: Surgical treatment in oncology is one of the main part concerning the surveillance rate of the patient in case of tumor recurrence. Metastatic suspected lesions are mostly located in the abdomen or pelvis and are diagnosed by PET, MRI or CT scan. Especially surgery of small lesions in recurrent disease for diagnostic or therapeutic purpose is often challenging caused by two problems: Altered anatomy and adhesions caused by the operation or radiation and correct correlation to imaging findings, in particular small lesion.

Material and Methods: We report a case series of 3 patients who were treated in our department due to cervical cancer (2) and carcinosarcoma (1). All 3 patients had a metastatic suspected lesion in PET-CT in follow up. For histological confirmation we performed a laparoscopy using a near infrared camera (NIR) for an improved visualization of the metastatic suspected lesion during surgical treatment. Previously the lesion was marked with an amount of the fluorescent dye, Indocyanine Green (ICG), via computer tomography-guided percutaneous injection. Therefore, one vial of 25 mg ICG powder was suspended with 5 ml of sterile water. Afterwards the patient was directly transferred to the operating theatre and the lesion was identified via NIR camera. While changing the camera in NIR mode, it showed up as a blue spot due to the fluorescent signal (like demonstrated in the video). After correct identification it was removed and send to pathology.

Results: In all 3 cases they confirmed the diagnosis of a metastatic lesion. Complication occur in just one case, where the metastatic lymph node infiltrated the external iliac vein, which led to a high blood loss. In this case a vascular interposition had to be done.

Conclusion: Because of separate wavelengths, which are used for illumination and recording, only the marked area is visible, not the background. Especially in the age of modern hybrid operating rooms this can be a new method which leads to shorter operation times by correct identification of the suspect lesion.
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**NIR Imaging and Indocyanine Green: the light in a dark place or how to improve safety in surgery for deep infiltrating endometriosis**

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**Introduction:** Surgery for deep infiltrating endometriosis (DIE) sometimes has to be radical leading to potentially severe complications such as intestinal, bladder or ureteral lesions or anastomosis insufficiency after rectal resection. Better intraoperative imaging can potentially reduce these complications. Especially the clear identification of the ureter is of great interest. In this video we demonstrate how NIR Imaging and Indocyanine Green improve safety in surgery for DIE.

**Material and Method:** First a cystoscopy is performed and a ureter catheter placed just at the ostium of the ureter. Then 5-10ml ICG (VERDYE®, 0.25 mg/ml) is injected directly into the ureter. Simultaneously a laparoscopy is performed and the ureter detected with Near infrared (NIR) imaging. In the presence of a DIE of the rectovaginal space, ICG is injected intravenously at a dose of 0.3mg/kg. After freeing the vaginal part of the nodule, the vascularization of the cleavage between the node and the bowel are inspected. If a rectal resection is needed, the vascularization at resection margins were analyzed and if necessary resected again.

**Results:** A couple of minutes after Injection in the ureter its course can be easily visualized with NIR Optic. The fluorescent coloring stays for 30min longer, helping to have a persisting control of the distal ureter during resection of an endometriotic nodule in the septum rectovaginale. The main advantage of this technique in comparison to the classical application of a double-j catheter is, beside avoiding the morbidity associated with the placement of the catheter, that the peristaltic movements of the ureter are still visible. Just 20 seconds after intravenous application the vascularization of the proximal intestinal resection can be visualized. Also with having the endometriosis nodule still in place the cleavage between endometriotic lesions and rectal wall can more easily be identified.

**Conclusion:** With NIR and ICG we have more possibilities to visualize critical regions during more complex surgery.
A challenging Case of deep infiltrating Endometriosis (DIE) a multidisciplinary approach

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Introduction: Patients with Dyschezia are at risk to suffer from a severe deep infiltrating Endometriosis. In these cases multidisciplinary diagnostic as well as therapeutic counselling is needed. The following Video demonstrates a case of DIE with multiple bowel involvement.

Case report: A 32 year old woman with severe Dyschezia and Dysmenorrhoea visits our outpatient clinic. 12 years before she underwent a laparoscopy with detection of Endometriosis stage IV according to rASRM. A down regulation with GnRH and a second look laparoscopy with coagulation of the lesions followed. Afterwards she started taking a hormonal combined contraception (COC) with good quality of life. Two years ago she decided to get pregnant and quit the COC. Unfortunately she did not get pregnant therefore Dysmenorrhoea and Dyschezia emerged. Our genealogical examination revealed no clear signs of Endometriosis. By virtue of the strong anamnestic and historical evidence we performed a nuclear spin with prove of multiple bowel Endometriosis. After multidisciplinary counselling we carried out the surgical treatment. As already expected from the nuclear spin, we found the main lesions in the Sigmoid, Cecum and around the sacrouterine ligaments. All the lesions where removed including Sigmoid and Cecum segments with end-to-end anastomosis.

Conclusion: A history of severe Endometriosis and typical symptoms after abandoning hormonal therapy, should lead to detailed examination including a nuclear spin, to determine the optimal surgical strategy.
Is nerve-sparing surgery really nerve sparing?
A video demonstration of the pelvic autonomic nervous system after laparoscopic dissection of a Thiel-embalmed specimen treated by a new combined maceration procedure

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Introduction: Surgery has become minimally invasive and nerve sparing in many fields. However, anatomic variability and the inability to visualize the small caliber fibers makes nerve-sparing surgery very difficult. The objective of this study is to demonstrate the anatomic path of the pelvic autonomic nerves by laparoscopic dissection of a female cadaver using a newly developed preparation technique that allows advanced description of small vessels and nerves.

Material and Method: A Thiel-embalmed female cadaver was dissected laparoscopically. After opening of the retroperitoneal space a gentle dissection was performed to gain access to the correct tissue layer. Then the pelvis was immersed in a 10% aqueous solution of nitric acid for 4 hours and rinsed with water for 30 minutes. The nitric acid maceration facilitated the dissection of the connective tissue and the subsequent preparation was performed only with rinsing and suction. The nerves become more prominent due to the swelling and increased water content. The autonomous nerves were followed up to the visceral organs. The relationship of the nerves to arteries, viscera and ligaments was documented. Biopsy specimens were obtained to confirm findings by histologic analysis.

Results: The superior hypogastric plexus was situated anteriorly and below the aortic bifurcation. It branched into the left and right hypogastric nerves connecting the superior hypogastric plexus to the inferior hypogastric plexus. Other afferences of the inferior hypogastric plexus were the sacral and pelvic splanchnic nerves. We were able to detect an impar hypogastric nerve stretching medially to the mesorectum. Furthermore, we identified a delicate network of nerve fibers originating from the hypogastric nerve and superior plexus hypogastricus and stretching medially towards the rectum.

Conclusion: Precise knowledge of the neuroanatomy of the pelvis is very important to reduce morbidity of pelvic surgery. To date, our knowledge is based on macroscopic sharp dissection on cadavers, where small nerve fibers possibly were dissected. Thiel fixation and preparation with nitric acid permitted dissection of the nerves up to the intraorganic branches. With our technique, we were able to demonstrate that the area medially below the superior hypogastric plexus – commonly used as an anatomical cleavage point – is not devoid of nerve structures. This suggests that nerve-sparing surgery may not be as nerve sparing as sometimes presumed.
Yes we can ... occlude the uterine artery via a posterior approach

Author: Constantin F., Dubuisson J.
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Introduction: Our study objective is to describe some tips and tricks to occlude uterine artery via a posterior approach. We will present a stepwise surgical tutorial using a narrated video.

Material and methods: The preventive occlusion of uterine arteries during uterine surgery has proved to be statistically effective in reducing hemoglobin loss by temporarily devascularizing the uterus. This technique, can be associated with surgical procedures that have a potential risk of major bleeding such as myomectomy or hysterectomy, particularly in cases of a large uterus. Here, we describe some tips and tricks of a minimally invasive technique using a laparoscopic posterior approach of the retroperitoneal space, which allows more direct access to the uterine pedicles. Institutional review board approval was obtained through our local ethics committee in Geneva University Hospitals.

Material and methods: The main occlusion technique described in the literature involves a superior approach at the level of the lateral pelvic triangle. We propose to access the uterine artery via a posterior approach at the posterior and inferior level of the broad ligament. The peritoneum is opened after previous identification of the uterine artery and the ureter by transparency. After a limited dissection, the occlusion of the uterine artery is performed under direct visual control through the atraumatic placement of a 10-mm endoscopic vascular clip.

Conclusion: The posterior peritoneal approach is a safe, minimally invasive option and should be favored if, during a laparoscopic procedure, a uterine artery occlusion is chosen to reduce blood loss. The main advantage of this technique is the limited dissection to access the uterine pedicles, thus minimizing the risk of accidental injuries.
Laparoscopic management of an aggressive angiomyxoma of the perineum

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Introduction: We present a video of laparoscopic resection of an aggressive angiomyxoma of the perineum in a patient of 38 years old who consult for an impressive enlargement of the right labia majora. This lesion is located in contact with the right obturator internus muscle and the wall of the vagina, under the levator ani muscle. After 6 months of treatment with LH-RH analogue (Zoladex), the tumour decreased in size from 9x8cm to 2x3cm on MRI images and we purpose a surgical resection. This lesion is a rare mesenchymal tumour occurring predominantly in the pelvi-perineal region. It is more common in women during the reproductive age. The treatment is mainly surgical but complete resection of the lesion is difficult as their limits are not clear. Laparoscopic excision of these lesions may help to decrease the morbidity of the surgical treatment.

Material and methods: It is a video of a laparoscopic excision after selective embolization of the lesion the day before the intervention to decrease the risk of uncontrolled bleeding, to have a safety and better access during surgery.

Results: Although the intervention was laid down by a double surgical approach, this operation was done entirely by laparoscopy with macroscopic complete resection and omentoplasty. Post-operative period was uneventful. We purpose adjuvant hormonotherapy (Tamoxifen) which the patient stopped after one week. Currently, almost one year later, the patient is free of disease (clinically and by MRI) and no sequelae from the surgical treatment.

Conclusion: The diagnosis of this rare pathology is difficult because the clinical presentation is similar to other frequent benign pathology of the vulva and the perineum (Bartolin's gland cyst, Gartner cyst, lipoma or abscess). The management is a challenge for the diagnosis and the treatment. Although it is benign, this tumour is still aggressive because of a high rate of local recurrence after resection and it is important to remove the tumour entirely. Hormonotherapy or radiotherapy is sometimes proposed to decrease this risk after surgery. There are a lot of case reports or little series who report surgical direct approach or mixed approach (laparoscopy and perineal approach) which can be locally devastating for these women. Few of literature state of a unique laparoscopy resection. We wish to present this intervention that, in this particular case, could be entirely performed by laparoscopy.
A new approach for the contained extraction of enlarged uterus after laparoscopic hysterectomy.

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**Introduction:** The recent publication of the FDA’s on the electric power morcellation of the myomas or the uterus with myomas, report an increasing risk of tumor dissemination in case of unrecognized malignancy. Even if the incidence of leiomyosarcoma is rare, more or less effective methods have recently been described in order to reduce the risk of intra-abdominal cell spillage while preserving the way of minimally invasive surgery.

**Materials and Methods:** We describe the surgical steps illustrating the process of a new technique of vaginal extraction in case of a large uterus after hysterectomy by laparoscopy. Conventional vaginal splitting techniques are used but are facilitated by the placement of an Alexis retractor. In addition, the procedure is completely done in a sealed endoscopic bag to avoid intraperitoneal contamination.

**Conclusion:** This technique is a practical answer to the issue of uterine morcellation after laparoscopic hysterectomy for enlarged uterus.
Poster Exhibition

P = Poster Exhibition
The vermian-cresta angle: a new method to assess fetal vermis position within the posterior fossa using 3-dimensional multiplanar sonography

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**Introduction:** Normal morphometry of the vermis and its relation to the posterior fossa (PF) rules out most major anomalies of the cerebellum. However, although some attempts to measure the angle between vermis and PF structures exists, i.e. brainstem and tentorium, an accurate categorization of fetal upward rotation/hypoplasia of the vermis remains a challenge. Our aim was to test a new method to assess fetal vermis position and biometry by multiplanar 3D ultrasound.

**Materials and Methods:** We conducted a prospective study between May 2015 and October 2016. We tested the possibility to calculate the Vermian-Crest Angle (VCA) composed by the convergence of two lines, the vermian line tangent to the nodulus vermis and the internal crest line at the occipital attachment of the falx cerebelli. Thereafter, the VCA was assessed consecutively in normal pregnant women using multiplanar 3D ultrasound to obtain a correct mid-sagittal plane. Additionally, vermian biometries (superior-inferior [SDD], antero-posterior [APD], and horizontal [HD] diameter), and volume were assessed. Spearman rank test, linear and polynomial regression analysis were used for statistical purposes.

**Results:** A total of 126 cases were included in the study. Mean±SD of gestational age (GA) at inclusion was 26.3±4.6 weeks (range, 17-35.5). In all cases the VCA could be measured and the vermian biometry/volume assessed. Mean±SD SDD, APD, and HD were 16.2±4.9mm, 11.2±3.6mm, and 5.6±1.6mm, respectively. Median (range) vermian volume was 0.50 cm³ (0.05-2.9). The VCA was 64.49°±11.45 within the investigated gestation age period. A significant correlation was found between gestational age (GA) and the vermian diameters, and a quadratic correlation between the vermian volume while no such correlation was present for the VCA (r=0.15; p=0.13).

**Conclusions:** Here we provide a new and simple method to assess vermis position within the PF and its biometry using 3D ultrasound. The combined information may be of value for screening purposes and in particular to differentiate between normal anatomy and various pathologies encountered within the PF.
Characteristics and perinatal management of late-onset SGA using the cerebroplacental ratio

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Introduction: Fetuses diagnosed as late-onset small for gestational age (SGA) and with late intrauterine growth retardation (IUGR) after 34 0/7 weeks for gestation are at risk for unfavorable perinatal and neonatal outcome. In addition to their estimated fetal weight (EFW), Doppler ultrasound is a crucial parameter in assessing fetal well-being and deciding on the best peripartal course of action. The cerebroplacental ratio (CPR), the ratio between pulsatility index (PI) of the middle cerebral artery (MCA) and the PI of the umbilical artery (UA) has been shown to be a good predictor of fetuses at risk for neonatal adverse outcome. However, it remains to be shown if an absolute cut-off value of CPR <1 or if gestational age related CPR percentiles are a better predictor. The aim of our study was to examine if there is a correlation between birth weight in relation to CPR, between CPR and birth mode and between CPR and neonatal outcome.

Material and Methods: In our retrospective study, we included singleton pregnancies at our clinic with an initial diagnosis of late SGA, IUGR and late flattening between 34 0/7 and 38 0/7 weeks of gestation born. Exclusion criteria were fetal malformations, intrauterine infections, pathological Doppler studies < 34 0/7 weeks of gestation and multiple pregnancies. CPR was considered pathologic with a PI MCA / PI UA ratio <1 or, alternatively, <0.6765 MoM or <5th centile. Neonatal outcome was considered adverse if it required treatment or NICU hospitalization.

Results: We included a total of 128 patients between 2010 and 2016, with an initial diagnosis of late-onset SGA, late-onset IUGR or late flattening after 34 0/7 weeks of gestation. Birth weight < 10th percentile, cesarean section and neonatal hospitalization were predicted more often using a CPR <0.6765 MoM or <5th centile than an absolute CPR <1.

Conclusion: Using a gestational age related CPR seems to be a better predictor for birth weight below 10th percentile, birth mode via cesarean section, peripartal outcome and neonatal hospitalization.
Perinatal interdisciplinary conferences – benefit for our patients

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Introduction: After a second trimester abortion with or without fetal malformation or unexpected neonatal death, the cause for this event or the confirmation of a diagnosis is essential for counselling of patients and their further medical treatment. The knowledge of different specialists optimizes this process.

Material and Method: Since over 30 years we perform interdisciplinary perinatal boards with neonatologists, pathologists, geneticists and obstetricians once a month. On the basis of 3 examples we would like to demonstrate how essential these boards are for confirmation of the diagnosis and further counselling of the patients.

Results: Case 1: 30 year old G1P1 with history of a cerebrovascular insult at the age of 14 years, since then on ASS 100. At 16 gestational weeks (GW) an IUGR, at 20 GW a placental hematoma of 6 cm and at 22 GW an intrauterine fetal death (IUFD) was diagnosed. The perinatal board confirmed a tuberose subchorial hematoma. Geneticists discovered a COL4A2-gene mutation, so-called “small vessel disease”, which is autosomal dominant transmitted and has a higher risk for bleedings. Therefore, ASS 100 was stopped in her second pregnancy. The patient delivered a healthy girl at term. Case 2: 39 year old G2P2 with a 5 mm NT at 13 GW and fetal skeletal abnormalities suspicious for thanatophoric dysplasia. CVS was performed: 46, XX without FGFR3-mutation. After abortion a retrognathia, hitchhiker’s thumb, hammer toe and pes equinovarus adductus on both sides were found. The babygram confirmed the short extremities. The geneticists detected a SLC26A2-gene mutation in the fetus confirming a diastrophic dysplasia. As it is an autosomal recessive disease a causing gene mutation was discovered in both parents. Case 3: 35 year old G3P2 with a history of an abortion at 22 GW due to a bilateral fetal urether-and kidney agenesia, atresia of vagina and tracheal occlusion. In her second pregnancy oligohydramnios and fetal agenesia of kidneys was diagnosed leading to abortion at 20 GW. The genetic evaluation after the discussions at the perinatal board found a fraser-syndrome (FRAS1) in both aborted fetuses. CVS in her following pregnancy showed only a heterozygous FRAS1-gene mutation and a healthy boy was born.

Conclusion: A perinatal interdisciplinary board is essential to solve riddles after a second trimester abortion or unexpected neonatal death. It helps to counsel the patients and optimize the outcome of further pregnancies.
One Stop MTop – Drug induced pregnancy termination with only one consultation

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Introduction: Pregnancy termination with Mifepriston is a safe and well established method to terminate an unwanted pregnancy according to the deadline regulation. Until now, such terminations were accompanied by several medical consultations. Recent studies demonstrate, that, as fare as possible, the treatment is given on the patient’s own authority. Since Mai 2016 the One Stop MTop (Medical Termination of Pregnancy) is applied on a carefully selected collective of patients at the Department of Obstetrics & Gynaecology Triemli Hospital.

Our experience: At the Department of Obstetrics & Gynaecology, we introduced the One Stop MTop method by the end of May 2016 on a carefully selected group of patients, which had been selected by applying a triage checklist. The advantage of this form of pregnancy termination is to reduce medical consultations from so far four to latterly one. During this single consultation the patient is not only counselled but is also signing all the required protocols and finally is swallowing the Mifegyne® pill under supervision. The patients will then be provided with the Cytotec® pills, the pregnancy test checkTop® and a written instruction form. Between May and December 2016, a total of 83 women decided to have a medical termination, of which 50 (60.2%) have chosen the One Stop method. They all qualified regarding understanding and showed no ambivalence.

Satisfaction: After 3-4 weeks, women who participated in the One Stop study and signed a written consent form, will be interviewed by phone to their experiences with One Stop, satisfaction, safety and need of further assistance. Until now the feedback is positive. Out of the 50 applications with One Stop we got 21 feedbacks attesting in 95% of cases having been very happy or happy and having felt very safe or safe. However the number treated is still very small, our experience demonstrates that the One Stop method is successful in a well selected patient group with careful counselling.

Outlook: Undoubtedly a longer observation time is necessary to be able to make a final statement. However, until now we certainly are able to confirm, that One Stop is a good method of medical pregnancy termination to relieve both, doctor and patient by fewer consultations, avoiding unnecessary invasive procedures and supporting the patient in their independence.
Patient Perception of Ductosonography versus Conventional Breast Ultrasound

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**Introduction:** Breast ultrasound (US) plays a key role in the examination of breast abnormalities detected by palpation, mammography or magnetic resonance imaging. In addition, it is a valuable diagnostic tool for women with symptomatic breast lesions or with high-density breast tissue. In conventional breast US meander-like scanning is employed. In radial US / Ductosonography the breast is scanned in a circle around the nipple and thus follows the anatomical arrangement of the ducts. We hypothesize that patients appreciate radial scanning as being more comfortable given the assumption that less pressure is applied to the breast. We report a single-centre, prospective study that compares meander-like US to radial US with respect to patient perception of comfort.

**Material and Methods:** Breast US using meander-like and radial scanning techniques was performed on the same day by two examiners. Consenting patients stated comfort and preference in a visual analogue scale-based questionnaire.

**Results:** Patients rated radial scanning to be significantly more comfortable than the usual meander-like scanning procedure. Consistently, 50 % of all patients preferred radial US, 44 % had no preference, and only 6 % preferred meander-like scanning. Among these three groups, patients who preferred radial scanning stated a significantly higher comfort during radial US which often correlated with feeling less pressure. In contrast, comfort associated with meander-like US had comparable ratings in all three groups.

**Discussion:** Our data confirm our hypothesis that patients associate radial breast US with increased comfort and often prefer radial over the meander-like scanning technique. The pressure reduction which may be attributed to the specific radial probe and/or the altered scanning directions, seems to have promoted a preference for radial US. Radial US was clearly preferred by 50 % of the patients whereas almost none preferred the meander-like scanning technique. Thus, replacing conventional meander-like by radial US might be contemplated provided that the specificity and sensitivity to detect breast lesions and to assess their malignancy is as accurate as in meander-like US. In addition, increased comfort associated with radial US might enhance patient compliance.
Rare case of endometriosis-associated malignancy of the abdominal wall: a case report

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Introduction: Endometriosis is a common disease that affects 3-15% of premenopausal women. Several studies report an increased risk of malignancies in women with endometriosis. 80% of endometriosis-associated malignancy (EAM), defined by certain histological criteria (including evidence of endometriosis close to the tumor), are localized in the ovary. About 20% are found in extragonadal sites, mostly within the pelvis. According to various studies Endometriosis-associated ovarian cancer (EAOC) is reported to have comparatively favourable characteristics such as young age, early-stage, low-grade disease and endometrioid or clear cell histology. However, evidence is sparse as there are only pooled analysis and case reports available on extragonadal EAM. We present a case of EAM arising within abdominal wall endometriosis.

Material and Methods: A 57y/o nulliparous woman, with previous surgery for high-grade clear cell ovarian cancer (OC) (FIGO IA) and adjuvant chemotherapy, presented 6 years later with a tumor in the lower abdomen and ascites. During laparotomy a 10cm tumorous mass confined to the right abdominal wall was found and completely removed. Histology revealed a low-grade endometrioid adenocarcinoma next to endometriotic tissue. Diagnosis criteria for EAM were met. After surgery, the patient received adjuvant external beam radiation.

Results: There was no clinical sign of endometriosis in the patient’s history and no endometriotic lesions were detected during both surgeries. The OC was discovered at an age of 51, which is later than the mean age of patients with EAOC (mean age 48.8). On re-examination the OC had no neighbouring endometriosis and histological subtype was again confirmed. Diagnosis of EAM 6 years later came as a surprise.

Conclusion: The possibility of malignant transformation should be considered and discussed for patients with endometriosis. If hormonal therapy is desired, endometriosis patients should receive a combined estrogen-progestin therapy or tibolone even after hysterectomy. However, there are currently no diagnostic options to predict the risk of malignant transformation for the individual. A systematic retrospective study on EAM is currently being conducted by the Endometriosis Research Foundation in Berlin together with AGO Germany, to which we will contribute with this case.
Reduction of the everolimus dosage due to co-medication with Imatinib in a Patient with hormone receptor-positive metastatic breast cancer.

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Introduction: Eventually, long-survival hormone receptor-positive metastatic breast cancer presents resistance to endocrine therapy (ET). The strategies to overcome this issue contain combination regimes with mTOR-inhibitors like Everolimus and increasingly also kinase inhibitors. Many of them are cytochrome P-450 metabolites and requires special attention regarding possible drug interaction.

Clinical Case Presentation: A 47-year-old female was diagnosed with a ductal carcinoma with pathologic stage pT2 pN1a (02/13) M0 G2 ER/PR+ HER2 negative. She underwent mastectomy and received adjuvant chemotherapy with doxorubicin/cyclophosphamide followed by paclitaxel and then ET with tamoxifen. The patient was already suffering from chronic myelogenous leukemia treated successfully with imatinib. Almost 2.5 years after the breast cancer diagnosis, the patient presented with mediastinal lymph node and bone metastases. During a period of 3.5 years, she received several cycles of ET including letrozol in combination with goserelin, exemestan, faslodex and tamoxifen. The patient underwent palliative radiotherapy of the mediastinum, pleurodesis and first-line chemotherapy with 17 cycles of taxol. Hereafter ET with tamoxifen and goserelin was performed until hepatic metastasis was evident. A fifth-line cycle of ET with everolimus and exemestan was indicated. The drug interaction between everolimus and imatinib, which are both CYP3A4-metabolites, indicated an increase in everolimus exposure with subsequent toxicity: We therefore started with a 50% lower dosage of everolimus (5mg) with regular monitoring of the plasma trough levels. Imatinib dosage of 400mg remained the same. Due to progressive adverse effects such as intense stomatitis, diarrhea and rash, the dosage of everolimus was reduced to 2.5mg/d, which was under the weekly dosage of at least 20mg/week recommended by O’Donnell. However, the measured serum concentration of everolimus was always well above the average of 5.4ng/ml also recommended by O’Donnell. No further adverse effects were described. Imaging with a PET-CT scan almost after 7 months after initiating exemestan/everolimus/Xgeva presented a good partial metabolic response. of the hepatic metastasis, steady mediastinal lesions and a decrease in pleural metastasis.

Conclusion: The pharmacological interaction due to co-medication with another cytochrome P-450 metabolite results in a reduction of the everolimus dosage under the recommended norm, nonetheless with a good outcome.
Repair of prolapse by vaginal mesh after bladder cancer related radical cystectomy

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Introduction: Vaginal vault prolapse with anterior enterocele after cystectomy due to bladder carcinoma can be a distressing incident. In the absence of the bladder, compromised pelvic support can cause the small intestine or even large bowels to herniate through the anterior vaginal wall with the formation of an anterior enterocele. Conservative therapies with pessaries are usually rendered difficult by the loss of pelvic tissue which should hold them in place. We treated two patients with anterior enterocele after radical cystectomy and ileal conduit urinary diversion. These two women were postoperatively soon bothered by the prolapse: a feeling of bulging, bleeding (ulcer of the vaginal wall); one women had a rupture with small bowel extrusion into the vagina. We describe the surgical repair with different vaginal meshes.

Material and methods: The actual age of the patients is 76 (A) and 81(B) years. Both had prolapse surgery before the diagnosis of bladder cancer. A: vaginal hysterectomy with anterior and posterior repair without meshes; B: anterior and posterior repair with Prolift® anterior/posterior and later a TVT-O; the hysterectomy was done with the radical cystectomy. Between 2012 and 2016, each patient underwent two surgical procedures to repair the prolapse by meshes. A: Elevate® anterior (polypropylene), Tiloop® with 6 arms (titanized polypropylene); B: Physiomesh® (abdominal, Monocryl-PDS-Prolene), Perigee® (polypropylene).

Results: Thus far both patients are doing fine, without recidive of the bladder carcinoma or recidive of the prolapse. They both have a good quality of life. A: has a shortened vagina. B: extensive mesh erosion with non disturbing vaginal discharge, no signs of infection.

Conclusion: Vaginal vault prolapse with anterior enterocele is rarely reported and the incidence and prevalence of post-cystectomy prolapse is unknown. However, no standard procedure for prophylactic measures at the time of cystectomy exists so far. Repair with autologous tissues is not feasible as pelvic tissue is compromised after radical cystectomy. The repair with vaginal meshes is a viable option in these patients, which is in contrast to the PROSPECT study.
Migrated Intrauterine Device (Gynefix®) embedded in small intestine as a consequence of uterine perforation during insertion

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Intrauterine Device is one of the most widely spread and effective contraceptive methods. Gynefix® represents a copper-containing hormone-free reversible birth control method.

Intrauterine contraception is generally well-tolerated. Uterine perforation is a rare side-effect which occurs in 1.1 in 1000 insertion procedures. Small intestine perforation caused by misplaced Intrauterine Device was already described in 13 cases. After insertion, an ultrasound examination is used to check the correct position of Intrauterine Device.

This report presents a case of migrated Intrauterine Device as a result of uterine perforation during insertion of Gynefix®. The patient, 29-year-old nulligravida, was asymptomatic. We describe the difficulties in the diagnostic approach by a primarily in the uterus situated copper chain, verified by ultrasound just after insertion. At the time of the 6 weeks control, a dislocation was postulated. We report on the following diagnostic steps and the subsequent laparoscopic removal of the migrated Intrauterine device which was embedded in the small intestine.

Our aim is the evaluation of risk of uterine perforation during the insertion and verifying the insertion method.
Management of paroxysmal nocturnal hemoglobinuria during pregnancy: a case report

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Introduction: Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired rare disorder of hematopoietic stem cells causing complement-mediated intravascular hemolysis. The clinical management of pregnancy is challenging due to increased maternal and fetal complications. Eculizumab, a humanized monoclonal antibody against complement 5, is highly effective in inhibiting complement activation and has successfully shown to prevent complications and to improve quality of life. Experience on safety and efficacy of Eculizumab in pregnancy is scarce but so far shows benefit in fetal and maternal outcome.

Material and methods: We report a case of a woman suffering of PNH, who was treated with Eculizumab during her second pregnancy.

Results: A 31-year old woman with PNH was treated with Eculizumab already for 32 months before conception and then during the whole gestation at the University Hospital of Zurich. The hematological monitoring took place biweekly in our hematological department with recurrent application of Eculizumab and assessment of hemolysis by measuring LDH and hemoglobin blood levels. The obstetrical monitoring was in first line done by an external gynecologist. Breakthrough hemolysis occurred in the second trimester, requiring two transfusions of red blood cells and the application of Eculizumab in shorter intervals. At 36+0 gestational weeks anti-C and anti-M antibodies were detected. In the follow-up controls levels of anti-C were always low and anti-M antibodies no more detectable. No thromboembolic events occurred during gestation nor in the postpartum period. The woman developed gestational diabetes requiring insulin and a mild hypertension, which did not require antihypertensive therapy. Ultrasound check-ups of the fetus were inconspicuous. The woman was then referred to our obstetrical department at 36+0 gestational weeks because of an increasing hypertension. Clinical surveillance was normal without signs of preeclampsia or fetal anemia. A healthy neonate of low birth weight (2730g) was born by scheduled cesarean at 37+0 gestational weeks. Direct antiglobulin test (DAT) turned out positive (+ +) in the neonate, but no hemolytic reaction requiring therapy occurred in the newborn.

Conclusion: In this case of pregnancy with PNH fetal and maternal outcome was favorable and Eculizumab has successfully shown to be effective without raising any safety concerns.
Happily 12 weeks pregnant and haemodynamically instable: what happened? An acute case of heterotopic pregnancy

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Introduction: Heterotopic pregnancy is the concurrence of intrauterine and ectopic pregnancy. These were rare: estimated at 1 in 30,000 pregnancies, but with increased fertility treatment they have risen to about 1 in 3900 pregnancies.

Material and methods: We describe a case of heterotopic pregnancy with its acute presentation, emergency management and postoperative outcome.

Clinical case report: A 28-year-old woman admitted to surgical accident and emergency had acute abdominal pain and was hemodynamically instable. Two days earlier she thought her abdominal cramps to be an intestinal disorder. Stool history was normal. She had had IVF treatment with transfer of two embryos 11 weeks 2 days previously. An ultrasound two weeks ago showed an intact intrauterine pregnancy. Haemoglobin level at entry had fallen 30points compared to last value of 134g/l a month earlier. The beta-HCG value was 105062 IU/l. Being pregnant called for emergency gynaecological consultation. Upon our arrival her pain was extreme, particularly when lying down; breathing only possible in upright position. Our transvaginal ultrasound in bed allowed detection of pulsatile free fluid coming from right ovary area and significant amount of free fluid in the Douglas pouch. The intrauterine pregnancy seemed intact. Clinically, a heterotopic pregnancy, previously undetected, with a tubal rupture was the most likely cause. Emergency laparoscopy was performed immediately. Intraoperative blood loss was considerable, estimated at 2000ml. From the right ruptured tube placental tissue oozed, the embryonic structure floated intraabdominally, a salpingectomy was performed. Postoperative ultrasound confirmed an intact intrauterine pregnancy. Postoperative haemoglobin was 67g/l. The patient received four blood bottles in all. She was discharged haemodynamically stable with intact intrauterine pregnancy on fourth postoperative day.

Conclusion: Heterotopic pregnancies are rare after spontaneous conceptions. Following reproductive treatment frequency is much higher. In fertility treatment patients the practitioner is strongly advised to carefully visualise the ovaries even in the presence of an intact intrauterine pregnancy. Increased awareness of the higher occurrence of heterotopic pregnancies after infertility treatment could help prevent acute complications and save lives.
Heterotopic Pregnancy: a Case Series in One Center

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Introduction: Heterotopic pregnancy is a rare event consisting in simultaneous intrauterine and extraterine pregnancies. It is a potentially dangerous condition occurring in a ratio of 1:30,000 spontaneous conceptions. With the use of assisted reproduction techniques the incidence of heterotopic pregnancy has risen to 1:900. We report four cases of heterotopic pregnancies between 2013 and 2016.

Cases: A 30 year-old G1P0 at the 7 2/7 weeks’ gestation presented with acute abdominal pain. Pelvic ultrasound confirmed incomplete abortion including suspicion of ectopic pregnancy. Dilatation and curettage in combination with laparoscopy were performed revealing a ruptured ectopic pregnancy. Salpingotomy was completed. A 28 year-old G1P0 at 5 4/7 weeks’ gestation following in vitro fertilization with double embryo transfer presented with light bleeding. Pelvic ultrasound revealed a suspicious structure in the left adnexa. Laparoscopy was completed disclosing a tubal pregnancy and salpingotomy was undertaken. After 30 days, missed abortion was diagnosed. Dilatation and curettage procedure was carried out. A 32 year-old G3P1 at 8 5/7 weeks’ gestation following ovulation induction arrived with acute abdominal pain. Transvaginal ultrasound indicated a viable singleton intrauterine pregnancy, with increased volume of left ovary. Within 4 hours of arrival, the patient’s condition deteriorated and she was submitted to emergency laparotomy. Salpingectomy was undertaken. Mass transfusion was necessary due to 2l hemoperitoneum. After stabilization, missed abortion was diagnosed and the patient underwent dilatation and curettage. A 33 year-old G4P2, at 7 1/7 weeks’ gestation, presented with acute right abdominal pain. Pelvic ultrasound identified a viable single intrauterine pregnancy and a right ovarian pregnancy, both consistent with gestational age. Laparoscopic partial ovariectomy was performed. Postoperative ultrasound showed continued viability of the intrauterine pregnancy. At 39 weeks and 3 days, the patient underwent scheduled Cesarean section delivery.

Conclusion: Heterotopic pregnancy should be suspected in patients with a viable/non-viable intrauterine pregnancy presenting with first abdominal pain and/or bleeding. Clinicians should be sensibilized to the necessity to perform a vaginal ultrasound of the adnexa and ovaries, and ectopic pregnancy should be suspected in patients with an adnexal mass. Management with laparotomy or laparoscopy can result in a successful obstetrical outcome.
Ogilvie Syndrome- a Rare Complication Following Caesarean Section

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Introduction: The Ogilvie Syndrome is a rare, acute condition characterized by massive colonic dilatation without anatomically detectable cause. Caesarean section may be associated with the syndrome, however, there are only few cases in the literature.

Case Report: Following uneventful pregnancy, a healthy 27-year-old Gradiva I undergoes I° caesarean section due to increasing symptomatic cholestasis at 37 1/7 gestational weeks. The course of the operation is uneventful. On the second postoperative day, the patient complains of increasing abdominal pain, nausea and emesis. The abdomen is massively bloated, painful on palpation, but bowel sounds are normal in all quadrants. Blood pressure, temperature and CRP (104 mg/l), Lc (17.9 10*9/l) are elevated. On palpation and ultrasound the uterus is well contracted, there are neither retained products of conception nor free fluid. On CT, the coecum is dilated up to 9.6 cms like an ileus like pseudoobstruction. Therapeutically, a stomach and rectal tube, as well as Neostigmine are applied. Coloscopy shows no signs of ischemic or inflammatory changes and wind release is sought. Within 24h the patient’s condition worsenes with doubling of CRP (331 mg/l), Lc (12 10*9/l) despite Co-Amoxicillin 3x1.2g i.v./d. Thus, diagnostic laparoscopy followed by laparotomy is performed, as the whole lower abdomen is found to be full of free stool. Intraoperatively, the coecum is necrotic over 12 cms and shows local perforation. Right hemicolecetomy with end-to-end-anastomosis is performed.

Outcome: Postoperatively, the patient is treated on intensive care for 9 days. Until definitive wound closure on postoperative day 12, six operations with abdominal lavage and VAC-closure are necessary. Modification of antibiotics, balanced diet and physiotherapy lead to normal defecation and mobility. After two weeks of rehabilitation subsequent to hospitalization the patient is fully recovered.

Discussion: In Switzerland, there are some 26'000 caesarean sections annually. Ogilvie Syndrome is a rare disease pattern, though found in pregnancy more often than expected (up to 1:1500 birth1). Coecal dilatation can reach dimensions with high risk for ischemia or perforation leading to a very high mortality (44%). Initial treatment is conservative or pharmacological followed by coloscopy and as a last option, laparotomy. Therefore, the syndrome should be expected in case of severe gastrointestinal complaints to allow for early treatment and recovery.
Erroneously Suspected Ovarian Cancer in a 38-Year-Old Woman with Pelvic Inflammatory Disease and Chlamydia - A Case Report

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Introduction: The obligate intracellular bacterium Chlamydia trachomatis is the most common bacterial cause of sexually transmitted genital infections. Urogenital chlamydial infection can cause pelvic inflammatory disease (PID) leading to severe outcomes such as ectopic pregnancy, infertility or chronic pelvic pain.

Materials and Methods: We describe the case of a 38-year-old woman with PID with suspicion of ovarian cancer.

Results: The patient presented herself with abdominal pain and dyspareunia. The clinical examination revealed diffuse abdominal tenderness without peritonism. The vaginal and abdominal sonography showed substantial ascites. The cancer antigen (CA) 125 was elevated with 482U/ml. An abdominal CT scan for further diagnosis was performed showing diffuse peritoneal enhancement consistent with peritoneal carcinomatosis, 4-quadrants ascites and slightly enlarged ovaries with solid and cystic structures. The results of the cervical smear PCR for chlamydia were available and were positive. The patient and her partner were treated with azithromycin 1g 2 days prior to surgery. Because of the positive Chlamydia result, the suspicious CT scan and the young age, we decided to perform a diagnostic laparoscopy as a first step. During the laparoscopy, the intraoperative situs showed an important quantity of brown dull liquid with multiple yellow-reddish jelly-like deposits on the Fallopian tubes, ovaries, Douglas, uterus and also on the peritoneum. There were no whitish cancer-like deposits on the peritoneum or elsewhere. The ovaries were slightly adherent to the pelvic walls but otherwise of normal aspect without any cancerous lesion. Ascites lavage and biopsies of the deposits on the peritoneal wall near the liver, the Fallopian tubes, the Douglas and the pelvic peritoneum were done. The cytology of the lavage showed no malignant cells but a high number of lymphocytes, histiocytes and few neutrophil granulocytes. The biopsies demonstrated a chronic florid inflammation with a high number of plasma cells and eosinophilic granulocytes. The postoperative course was trouble free. We treated the patient with doxycycline 200mg /day i.v. for 3 days and after that p.o. for overall 14 days.

Conclusion: Chlamydia infection can simulate the presentation of ovarian cancer. Especially in young patients, we recommend to scrutinize every diagnosis of ovarian cancer even if its presentation seems to be typical.
Antibiotic prophylaxis in a pregnant woman with sickle cell anemia

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Introduction: Pregnancy in sickle cell anemia (SCA) is considered high risk. Because of the known risk of infection, official recommendations in Britain include penicillin prophylaxis throughout pregnancy, delivery and five days postpartum, in contrast to standard recommendations in the US.

Material and methods: We describe a case of SCA during pregnancy, who we managed without continuous antibiotic prophylaxis.

Results: A 30-year-old gravida 4, para 0 with SCA was transferred to our antenatal clinic at week 16 of pregnancy. Her past medical history was significant of common complications in patients with SCA such as lung embolism, femoral head necrosis and functional asplenia. Antibiotic prophylaxis was not started, in favor of close monitoring for signs of infection. During the first trimester the patient was hospitalized with vaso-occlusive crisis and treated with aminopenicillin and clavulanic acid orally for 5 days when she showed unspecific signs of infection. Because of the high risk of embolism and preeclampsia, aspirin (100 mg oral daily) and enoxaparin (60mg subcutaneously daily) were started at week 12. At week 18, intrahepatic cholestasis of pregnancy was diagnosed and ursodeoxycholic acid (900 mg twice daily) was started. Due to vaso-occlusive crisis the patient was hospitalized at week 27 of pregnancy. Red blood cell transfusion was administered to correct low hemoglobin (hemoglobin 85g/l). At week 34, the patient was treated for a bacterial respiratory infection with a 10-day course of aminopenicillin and clavulanic acid. Aspirin was stopped at week 36 of pregnancy. Because of her previous bilateral hip replacements, cesarean section was recommended. One day before cesarean section, an exchange transfusion was performed with reduction of HbS to less than 30%. A single dose of aminopenicillin and clavulanic acid was administered preoperatively. A healthy girl (2600g) was born at week 37 of pregnancy. The postpartum period was uncomplicated. Anticoagulation with enoxaparin 40 mg daily was carried on for 6 weeks.

Conclusion: The case presented here demonstrates a successful outcome of pregnancy in a SCA patient where prolonged antibiotic prophylaxis was not administered during pregnancy or puerperium. Although antibiotic prophylaxis is commonly implemented in these situations, further study seems needed to determine if it truly improves outcomes.
Internal hernia in third-trimester pregnancy after Roux-en-Y gastric bypass: a case report

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Objective: Bariatric surgery gained popularity during the last two decades. Especially young patients in childbearing age with obesity-related health problems are addressed with the bariatric procedures due to excellent reduction of co-morbid conditions. Subsequently, rising numbers of pregnant women with prior bariatric surgery may experience complications. Internal hernia has been described with variable incidence as high as 3-7%. Clinical evaluation is often inconclusive and complicated by pregnancy and delay in diagnosis may cause irreversible damage of the intestine and maternal long-term morbidity.

Methods: A 31-year-old Gravida III, Para II who was referred to our department at 32 4/7 weeks’ gestation with intermittent cramps and abdominal pain. Medical history revealed laparoscopic insertion of a gastric band and a Roux-en-Y gastric bypass 10 years ago with an achieved weight loss of 40 kilogram. In clinical examination, signs of peritonitis, uterine contractions or placental abruption were missing. Fetal heart-rate pattern was reassuring and fetal biometry appropriate. Laboratory investigations in our clinic confirmed normal white and red blood cell count, platelets, lactate, C-reactive protein, liver and pancreatic enzymes. The intermittent and severe pain attacks did not respond to high dose analgesic treatment. Due to multi-disciplinary clinical assessment we decided to run a CT in suspicion of an internal hernia. Imaging showed free liquid around the liver and spleen. The small bowel was shifted to the left side of the abdomen and the mesenteric veins had been dilated to 1.5 cm, compatible with a congestive edema. A whirlpool sign was revealed. In consideration of the situation, those signs pointed to an internal hernia.

Results: Immediate laparotomy with distortion of the bowel was performed. Nearly 4/5 of the bowel were affected. During reposition a hemodynamically unstable episode without response to medical treatment occurred. Therefore, a Cesarean Section was performed. As a consequence of pro-longed general anesthesia a depressed neonate was delivered. In the meantime, small bowel showed signs of reperfusion and resection could be avoided.

Conclusion: With increasing numbers of bariatric surgery procedures being performed, it is necessary to be aware of unspecific symptoms in pregnant women with a history of RNYGB. Rapid intervention may be mandatory to avoid permanent damage to the intestines.
Induction of labor is not associated with postpartum hemorrhage: a prospective cohort study

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Objective: Induction of labor (IOL) has been weakly associated with postpartum hemorrhage (PPH). However, valid data are lacking and only a few studies assess the problem of PPH due to IOL and none of these studies adjusted for well known risk factors for PPH. Objective of our study was to compare blood loss after delivery in women with induction of labor to women with spontaneous onset of labor in a prospective cohort study.

Methods: In the University Hospital of Zurich, 965 deliveries were analyzed including 380 women with IOL (39.3%). Included were women with singleton gestation, vertex fetal position, at least 36 completed weeks of gestation without known coagulation disorders who planned to give vaginal birth. Primary outcome parameters were incidence of PPH, estimated blood loss (EBL) and delta hemoglobin (dHb: difference of pre-/postpartal Hb). PPH was defined as blood loss of ≥ 500ml after spontaneous deliveries and ≥1000ml after caesarean sections. A linear regression analysis was performed for the established risk factors for PPH. In a subgroup analysis, women with a duration of IOL of more than 48 hours were analyzed. Differences between groups were calculated with the Mann-Whitney U test, Chi-square test or Fisher's exact test as appropriate. Level of statistical significance was set at p<0.01 due to multiple tests.

Results: Incidence of PPH and EBL were not significantly different in women with IOL compared to those without IOL (24.7% vs. 21.2%, p=0.20; and 400 (300-600) ml vs 400 (300-500) ml, p=0.03). Women with IOL had a significantly decreased drop in hemoglobin after delivery (dHb 13 (5-21) g/l vs. 16 (9-24) g/l, p<0.01). Clinical relevant loss of hemoglobin defined as dHb ≥30 g/l was not different in women with IOL as compared to women without IOL (12.9% vs. 13.8%, p=0.67). In the linear regression analysis, induction of labor remains associated with decreased loss of hemoglobin after delivery (dHb -3.4 g/l (CI 95 % -4.98 to -1.786 g/l), p<0.01). Women with more than 48 hours of IOL had higher EBL after delivery as compared to women without IOL (500 (387.5-800) ml vs. 400 (300-500) ml, p<0.01) but similar incidence of PPH 28.9% vs. 21.2%, p=0.26 and similar dHb 17 (7.75-30) g/l vs. 16 (9-24) g/l, p = 0.56.

Conclusion: Induction of labor is not associated with postpartum hemorrhage. In fact, women with IOL show a statistically significant decreased loss of hemoglobin after delivery as compared to women with spontaneous onset of labor.
Abnormal Placentation – A case report of conservative management and delayed hysterectomy

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Introduction: The occurrence of placenta accreta, increta or percreta is a rare but potentially life-threatening obstetric complication. It represents a condition in which chorionic villi attach to (accreta) penetrate into (increta) or through the myometrium (percreta), resulting in a morbidly adherent placenta (MAP). The most important risk factor is placenta previa after previous cesarian section (CS). MAP occurs in about 1:2500 pregnancies with rising incidence reflecting the higher numbers of CS performed. We report on a case of a woman with a placenta increta post CS and present the peri- and postpartum management.

Case: A 33 year old G2 P1, with a history of CS due to severe HELLP syndrome presented at 32 3/7 weeks of gestation (WG) for a regular pregnancy control. Abnormal placentation in the area above the CS scar was diagnosed with ultrasound (US) and confirmed with MRI. An elective CS with tubal sterilisation was scheduled. At 34 3/7 WG, the patient presented with acute pain in the area of the CS scar. Advanced CS was performed and placenta increta of 5x3cm in the area of the old CS scar was confirmed. Most of the placenta could be detached and the uterine segment around the incision was removed with the placenta but a tiny placental piece was probably left in situ. In the postpartum control the US showed a well vascularized structure suspicious for placental tissue caudal of the CS scar. The HCG value was below limit of detection, a conservative approach was intended. 6 weeks later US still showed a hyperechogenic structure with abnormal perfusion. Different management options were discussed and finally a laparoscopic hysterectomy was performed. Intraoperative findings showed a piece of placenta without covering uterine layer located near the bladder wall. The histologic result showed necrotic cells probably corresponding to placental remnant. The postoperative course was uneventful.

Discussion: We report on a case with conservative management of MAP and delayed hysterectomy due to placental remnants. Conservative approach may preserve fertility or the necessity to perform hysterectomy on a “pregnant” uterus. Close follow-up is necessary for patients treated conservatively until the placenta is completely expelled and HCG is negative. MTX administration in case of persisting high HCG or removal of placental remnants by hysteroscopy are possible management strategies. Or, as in our case, delayed hysterectomy if no further child birth is foreseen.
Uterine mass and negative HCG – still an ectopic pregnancy?

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Introduction: Ectopic pregnancies develop at different locations (fallopian tube, abdominal cavity, cervix uteri, cornual/intramural) with a variety of clinical presentation. Patients can be asymptomatic till life-threatening ill. The therapeutic management depends on the clinical presentation and the diagnostic algorithm. An oligo symptomatic patient with a tubal pregnancy can possibly be treated medicamentous or even just expectant. In all the others situations generally an active management is necessary. Sometimes a missed ectopic pregnancy subsequently leads to clinical confusion as we present in our case.

Case report: A 30 year old woman with suspicion of a symptomatic uterine myoma (oligo menorrhoea as well as menometrorrhagia) and sterility was referred to our hospital. Transvaginal ultrasound showed an intramural inhomogeneous fundal mass with a diameter of 37 mm. Curiously the lesion measured 50 mm three month before. There were no signs of increased vascularization. Serum beta-HCG was negative. As a consequence of sterility and an unclear uterine mass we performed a hysteroscopy and laparoscopy with chromopertubation. Hysteroscopy showed a regular cavity with no signs of submucosal myoma. The laparoscopy revealed a normal sized uterus with slightly adherent colon sigmoideum to the right side of the uterus. After separation of the adhesion a necrotic mass protruded from the uterus. The mass was removed completely and the myometrium was joined. Throughout chromopertubation emission of blue colour from the necrotic area as well as from the tubes was noticed. The histological result showed an old necrotic ectopic pregnancy.

Conclusion: Due to the nonspecific uterine mass and the sterility further clarification was necessary. Surprisingly we discovered an old cornual pregnancy explaining the primary downsizing of the lesion. For future pregnancy we recommend a primary Caesarean section because of the transmural fundal intervention.
Villoglandular carcinoma - A rare adenocarcinoma of the uterine cervix

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Introduction: The villoglandular carcinoma of the uterine cervix is a rare subtype of cervical adenocarcinoma of the cervix. It was first described in 1989 by Young and Scully. It occurs with a lower incidence, younger age and a better prognosis than ordinary adenocarcinoma. The favorable prognosis makes a fertility-preserving surgery possible.

Case history: Our case report describes a 42 year old patient. The routine cytological screening showed abnormal squamous cells. The following colposcopic biopsy with subsequent cone biopsy showed a villoglandular carcinoma and a high grade intraepithelial lesion. The staging included a full thoracal and abdominal CT scan. Showing a tumor with unclear dignity in the right colic flexure. In an additional coloscopy and a PET - scan the tumor was no longer detectable. This has been interpreted as a rare evanescent colitis due to oral contraceptive usage. As our patient had no requirement for further fertility a roboter assisted laparoscopic radical hysterectomy and bilateral adnexectomy was performed at the Cantonal Hospital of St.Gallen.

Results: No complications during and after surgery were reported. Following a radiotherapy was performed and a regular follow-up is done. Until now there is no evidence of recurrence in our patient.

Conclusion: The villoglandular carcinoma of the uterine cervix has a favorable prognosis and a fertility preserving treatment can be discussed with the patient. However a review of the literature showed only 78 cases of villoglandular carcinoma of the cervix until now, and all had short follow-up times. Therefore from today’s perspective a generally accepted treatment scheme can not be determined.
Clinical implications after ultrasonographic detection of fetal clitoromegaly in late pregnancy: a case report

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Introduction: Congenital clitoromegaly is an uncommon malformative disorder secondary to hormonal or non-hormonal etiologies. Chromosomal changes, endocrinopathies, exogenous androgen exposure or masculinizing tumors infiltrating the clitoris are the main hormonal causes for clitoromegaly. Its detection in late pregnancy by ultrasonography is uncommon and requires close surveillance and urgent postpartum evaluation.

Case report: We report the case of a 28-year-old cosmetics and perfume seller, 2G1P with a 36-week pregnancy in which a foetal clitoromegaly was found incidentally. The ultrasound morphologic assessment at 22-week did not allow a clear sex determination, and during further follow-ups gender identity remained ambiguous. The remaining morphologic ultrasound was always normal. Given the malformation found in such late gestational age, close ultrasound monitoring was made, with scheduled post-partal genetic and hormonal testing. A female baby was born by a spontaneous delivery at 40 5/7 days, following a premature rupture of membranes. Labor was complicated by an uterine atony over a placenta retention which was removed in the operating theater. The neonate had a normal weight and height for her age, Apgar 9/10/10, pHa 7.35, pHv 7.40. The clitoromegaly was confirmed clinically at birth. We excluded biochemically an adreno-genital syndrome, which would have resulted in neonatal salt-wasting loss leading to potentially life-threatening dehydration. Further genetic, and hormonal disorders were subsequently also excluded. The baby is currently 3 months old and the clitoromegaly has resolved. We suggest that exogenous androgens may have played an etiological role given her high exposure to perfumes. Limited evidence suggests the effects of toxic fragrant chemicals, such as musks, could be disruptors of the hypothalamic-ovarian hormone pathway. Animal-lab studies have shown an increased risk in tumor genesis after high levels of theses toxins that may be reversible and not genotoxic but the results are conflicting and inconclusive, and thus, not confirm our reasoning. The exact cause of the isolated transient clitoromegaly therefore remains elusive.

Conclusion: This observation underlines the importance of accurate ultrasonographic assessment when evaluating patients even at the end of pregnancy and encourages us to propose further studies in case of etiological doubt. We suggest the clitoromegaly resulted from the high androgen exogeneous work-related exposure from the mother.
Addison Crisis in Pregnancy - Lung Maturity Safes Mother’s Life - A Case Report

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Introduction: Addison crisis is a rare and life-threatening event. Particularly in pregnancy, it requires great alertness and may be made difficult by pregnancy related physiological changes like vomiting, nausea, hyperpigmentation and hypotension, also common in Addison's disease. Obstetrical complications may also draw off attention and delay diagnosis of endocrinological disease during pregnancy.

Material: We present a case of a 37-year-old G V, P II with monochorionic-diamniotic twin pregnancy who was referred at 25 2/7 weeks of gestation with PPROM of twin A, elevated infection parameters and oligohydramnios. First dose of 12 mg beta-methasone for fetal lung maturation as well as tocolysis with atosiban and antibiotic treatment were started. She had a history of two spontaneous deliveries, two miscarriages and hypothyroidism. She admitted sporadic intake of cortisone tablets allegedly to treat hypotension. Aside from symptoms of imminent preterm birth she presented with tachycardia (116 beats per minute), hypotension (92/38 mmHg), tachypnea (respiratory rate 32 / minute), reduced attention and poor concentration. Her blood tests revealed hyponatremia (130 mmol/l), hyperkaliemia (5.1 mmol/l), low TSH level (0.07 mU/l) and elevated anti-TPO antibodies (2804 U/ml). Acute Addison crisis with metabolic acidosis and respiratory compensation was diagnosed and a bolus of 100mg of hydrocortisone was given immediately followed by 200mg hydrocortisone / 24 hours. The patient was admitted to intensive care unit and showed a slow recovery.

Results: 18 days later she delivered two girls vaginally at 27 5/7 weeks due to chorioamnionitis with 880g (APGAR 1/6/9) and 930g (APGAR 3/5/7).

Conclusion: In this case, first dose of beta-methasone for fetal lung maturation delayed the life-threatening symptoms of acute Addison crisis and helped the physicians to more time for diagnosis. Pregnant women with Addison disease have a higher risk of fetal and maternal complications. It is essential for survival to continue glucocorticoid replacement and always keep the medical alert card. Adequate replacement therapy of glucocorticoid and mineralocorticoid combined with regular follow up before and during pregnancy may result in uncomplicated pregnancy. Patients should be aware of symptoms and emergency measure as well as trigger conditions like infections or operations and contact the physician immediately.
A rare case of Guillain Barré syndrome as paraneoplastic syndrome of an ovarian cancer

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Introduction: Guillain Barré Syndrome (GBS) is an acute immune-mediated demyelinating polyradiculoneuropathy. It can be a paraneoplastic syndrome. The most frequent cancers involved are small cells lung cancer and Hodking lymphoma. Genitourinary cancers (ovary, kidney, uterus) are rarely associated with this syndrome. The pathogenesis of this syndrome would be an immune cross-reactivity between cancerous cells and nervous system. It has been demonstrated that patients suffering from paraneoplastic neurological syndroms produce onconeural antibodies, such as anti-Yo antibodies for instance.

Case report: In December 2016, a 71 years old 4G4P woman checks in emergency room for one week long abdominal pain, with bloating and asthenia over a month. An abdominal scan shows a suspicious bilateral ovarian infiltrating mass combine with ascitis and peritoneal carcinosis. Diagnostic laparoscopy reveals a frozen pelvis. The biopsies speak for high-grade serous carcinoma compatible with a gynecological or peritoneal origin and peritoneal carcinosis (FIGO stage IIIc). During hospitalization, she mentions a proximo-distal tetraparesis of the four limbs, associated with sensory disturbances: hypoesthesia, pallesthesia, proprioception and an areflexia (mostly in lower limbs) fastly spreading over 2 weeks. The cerebral scan and MRI are normal. The lumbar punction shows proteinocytological dissociation with hyperproteinorachia. The IgG oligoclonal pattern present in the cerebrospinal fluid (CSF) is identical to the IgG oligoclonal serum pattern. The ENMG confirms the GBS. The patient has to be checked in the continuous care department. She receives immunoglobulins for 5 days. She shows a slight improvement in neurological symptoms. Although the neoadjuvant chemotherapy started only two weeks later, due to patient’s decision. The oncological schedule is 3 neoadjuvant chemotherapy sessions followed by a radiological appraisal prior to cyto-reduction surgery and ending with 3 more chemotherapy sessions.

Discussion: In epithelial ovarian cancer there are more often anti-Yo antibodies present which is not the case for this patient. The treatment of GBS includes plasma exchange and intravenous immunoglobulins. The neoplasms's removal or a chemotherapy should be introduce as soon as possible to decrease the symptoms. In conclusion, neurological paraneoplastic syndromes such as GBS can be associated in limited cases with ovarian cancer.
Sister Mary Joseph Nodule as a Manifestation of an endometrial or ovarian cancer

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Introduction: Sister Mary Joseph nodule (SMJN) is a rare umbilical lesion resulting from an intra-abdominal and/or pelvic malignancy. It was named after Sister Mary Joseph, a surgical assistant to Dr. William Mayo, who noted the association between the presence of an umbilical nodule and an intra-abdominal malignancy. Its incidence is 1%-3% of all intra-abdominal malignancies. Gastrointestinal malignancies account for about 52% of cases and gynecological cancers, most commonly ovarian and uterine, account for about 28% of the underlying sources. 15-29% of all cases have an unknown origin. The mechanism of tumor spread to the umbilicus is poorly understood as it seems to be lymphatic, vascular, contiguous, or via embryologic remnants in the abdominal wall.

Materials and methods: A 75-year-old female was referred to our hospital due to an increasing abdominal erythema and umbilical induration. She had a past history of postmenopausal bleeding a few months earlier. The histology of a performed curettage had shown an endometrial adenocarcinoma of the uterus. With the suspicion of an infected umbilical hernia with erysipelas, surgical debridement was performed. Histopathology of the umbilicus revealed the presence of adenocarcinoma consistent with a SMJN. Punch biopsies of the erythema showed no signs of carcinoma.

Results: We performed surgical debulking using midline laparotomy, radical hysterectomy, bilateral adnexectomy, omentectomy, as well as paraaortal and pelvic lymphonodectomy. The final histopathology showed the simultaneous occurrence of both ovarian and uterine cancer. Due to the advanced stage of the ovarian malignancy with infiltration of the serosa, we assume the SMJN originated from the adnexual tumor pT1c rather than from the endometrial carcinoma (pT1aIA). The patient will undergo chemotherapy with carboplatin and paclitaxel.

Conclusions: SMJN is associated with advanced metastatic abdominal malignancy and poor life expectancy. It is not rare for this tumor to be the initial manifestation of gastrointestinal or gynecological cancers. The presentation of a SMJN can be quite variable ranging from a hard irregular nodule to a soft and painfully ulcerated mass. When present, this nodule is often the first sign of an intra-abdominal or pelvic malignancy. SMJN must be considered at all times when patients present with umbilical tumors. In such cases, further examination ought to be performed in order to exclude or confirm the suspicion.
What does happen in a Swiss consultation of sexual medicine?

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Introduction: Sexuality is a central factor of quality of life and health and should be part of the medical history. When sexual difficulties arise, evaluation, diagnosis and treatment should be proposed by a trained staff. Sexual Medicine is the transversal medical discipline that offers an appropriate management of sexual dysfunctions in men and women. In Lausanne, a new consultation in Sexual Medicine started in 2014. The purpose of this abstract is to present the activity of this kind of consultation in a Swiss setting.

Material and methods: Retrospective analysis of data of patients consulting in Sexual Medicine collected since Mai 2014. Graphics are used for illustration.

Results: One hundred and twenty five patients were seen in the consultation. There were mainly women aged between 20 and 40. The main sexual complains were dyspareunia (43%), loss of libido (24%) and vaginismus (13%). After evaluation, the most frequent diagnosis were dyspareunia (25%), relationnal (14%) and psychological difficulties (11%). Sixteen percents were addressed to manual therapies and 17% to psychological management.

Conclusion: Patients seeking help in a Sexual Medicine consultation in a university hospital in Switzerland are mainly young women, complaining of dyspareunia and loss of libido. These problems are best managed by a trained multidisciplinary staff. This consultation meets the need of patients and caregivers.
Better Safe than Sorry – Diagnostic Imaging in Pregnancy at the Right Time

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Introduction: The reluctancy to conduct diagnostic imaging during pregnancy may delay a correct diagnosis of medical conditions. Due to fear of potential harms of the unborn, the delay of a correct diagnosis during pregnancy may paradoxically cause by far more damage to the mother and child than the imaging itself.

Case: A 38 year old woman in 30 weeks of gestation was transferred to our clinic with an acute abdomen. She had been treated with penicilline over 3 days for pyelonephritis. Because her general condition aggravated a MRI was performed with the finding of an abscess measuring 8x7cm in the region of the left psoas muscle. Anamnesis revealed that during the last 3 months she had been experiencing pain in the lower left abdominal quadrant with emission to the lower back, accompanied liquid stool. At arrival, fetal lung maturation was started and the abscess was drained transabdominally. Due to clinical worsening and revealed free intraabdominal air by abdomen radiograph with suspicion of perforated diverticulitis, laparotomy with simultaneous cesarean section was performed the next day. Because of intraoperative suspicion of cancer, resection of the left hemicolon and lymphadenectomy was performed. Histologic assessment verified the diagnosis of a T4b colorectal cancer of the colon sigmoideum. The patient stayed in hospital for 6 weeks due to repetitive deb-ridements. She is currently obtaining adjuvant chemotherapy.

Conclusion: Whenever there is a persistent clinic under therapy, the working hypothesis should be reassured and an auxiliary diagnostic imaging is necessary. Especially MRI has no reported harmful effects of the pregnant woman or fetus and can be performed at any stage of pregnancy when the information cannot be acquired by other non-ionizing means. Concerning ionising radiation, the possible effects on a fetus depend on several factors like the effective dose the fetus is exposed to and its gestational age at that time. Most physicians overestimate the effective dose that a fetus is exposed to during an imaging study, and underestimate the acceptable effective dose a fetus is exposed to. Furthermore, various techniques to minimize the radiation dose exist. We discuss the doses of the different imaging studies and their possible effects and lead you towards more comfort and security with the different modalities of diagnostic imaging during pregnancy.
Spontaneous dermoid cyst rupture with chemical peritonitis: a case report

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Introduction: Chemical peritonitis is the peritoneal reaction after spillage of the contents of ovarian cystic teratoma. The irritants are fatty acids, bile salts and sweat elements that trigger inflammatory reactions. Usually this diagnosis is observed after peritoneal contamination during laparoscopic surgical removal of teratoma. Incidence of this complication is less than 1% if the cyst is carefully removed and if a copious irrigation of the pelvis and abdomen is done. Rarely this peritonitis is observed as an acute abdomen in relation with a spontaneous rupture of a teratoma. Here we present a case of delayed diagnosis of a spontaneous rupture of a teratoma leading to an important chemical peritonitis.

Material and methods: A 33 year-old G0 arrived at the emergency room with right hemiabdominal pain for the last 10 days, without alteration of the digestive function or fever. On physical examination her abdomen was diffusely painful with tenderness and rebound tenderness in right inguinal area. Laboratory analysis revealed an elevated number of leukocytes (12.8 G/l) with CRP (30 mg/l). The ultrasound examination showed some liquid in the Douglas with presence of an heterogeneous right ovarian mass of 6 cm of larger diameter. A CT scan showed the same mass looking like a teratoma and several extra-digestive hypodense lesions in the right parieto-colic gutter and under the diaphragmatic dome, which may correspond to fragments after rupture of the dermoid cyst.

Results: An open laparoscopic surgery was performed finding inflammatory abdominal adhesions. The adhesions were taken down. Multiple yellow–white peritoneal implants were found throughout the pelvis and the abdomen, laying on the surface of the ovaries, uterus, bladder, bowels, diaphragm and liver. We found also a pre-ruptured left ovarian dermoid cyst which was removed in an endoscopic bag. Peritoneal lesions were taken off extensively with an atraumatic laparoscopic instrument and with a pad. After four hours of surgery the patient presented an important subcutaneous emphysema which forced us to put an end to the operation. We copiously irrigated with 13 liters of warm normal saline.

Conclusion: Chemical peritonitis is a rare complication of removing teratoma and can occur after spontaneous rupture of a dermoid cyst. The treatment is the surgical removing of the cyst, of the spillage lesions and the irrigation until the disappearance of fatty molecules.
Spontaneous hematoma of the umbilical cord: a case report

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Introduction: Spontaneous hematoma of the umbilical cord is a rare occurrence, with an incidence of 1/5500, leading to an estimated 50% fetal mortality rate. Our current knowledge is limited, comprised of only a few case reports.

Case report: A 22-year-old primigravida at 38 weeks of gestation with no significant medical history. She presented with premature rupture of membranes and reported diminished fetal movement for 12 hours. On admission, vital signs were normal and the cervix was closed. Fetal heart monitoring showed a baseline of 170 bpm, with absence of accelerations and loss of variability. On ultrasound, no fetal or respiratory movement was observed. Umbilical Doppler was normal (RI 0.56). Emergency Cesarean was performed, with delivery of a female neonate weighing 3000g. Within the 43cm cord, two hematomas were noted, originating from the fetal and placental insertions, measuring 10cm and 4cm. The newborn necessitated CPR measures with 0/2/7/7 Apgar. Cord pHa-v was 7.15 and 7.20, lactate was 8.9 mmol/l. Hemoglobin was 189g/l. Seizures started at 24 hours, requiring phenobarbital treatment. Cerebral MRI showed a right parenchymatous venous hemorrhagic infarct, related to perinatal distress. Pathological exam revealed accumulation of blood within the Wharton’s jelly. Etiology of this hemorrhagic event remains unclear. The patient was discharged after 8 days, with outpatient follow-up.

Discussion: Spontaneous hematomas usually originate from partial umbilical vessel rupture, occurring primarily at the fetal insertion. The exact pathophysiological process is unknown. Possible risk factors include: alteration of the vessel wall, Wharton’s jelly deficiency, infection and anomalies in cord morphology or insertion. Antenatal diagnosis has been achieved using Doppler ultrasound. Fetal heart monitoring can display variable or late decelerations, and loss of variability. Fetal distress may be linked to blood vessel compression, and in severe cases, to fetal blood extravasation. Hematoma expansion may lead to fetal bradycardia and cardiac arrest. Literature review revealed that hematomas are not always seen macroscopically, warranting careful pathological exam of the cord in cases of fetal anoxia.

Conclusion: Clinical presentation of cord hematoma is nonspecific, largely associated with reduction in fetal movement and abnormal fetal heart monitoring. Greater awareness of this condition could improve the rates of this life-saving antenatal diagnosis.
Atypical haemolytic uraemic syndrome in the postpartum period: a case report

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Introduction: Atypical haemolytic uraemic syndrome (aHUS) represents up to 10% of HUS cases. The pathogenesis of aHUS involves uncontrolled activation of the complement system and is usually due to one or multiple genetic mutations. aHUS is characterized by microangiopathic haemolytic anaemia, thrombocytopenia and acute kidney injury without relation to E.coli-infections. One sporadic form of aHUS is the pregnancy-associated aHUS, which occurs in 1 out of 25’000 pregnancies most of the time in the postpartum period.

Case report: A 35-year-old gravida 2 para 1 was admitted to our facility for induction of labour at 41+5 weeks of gestational age. Her pregnancy took a normal course except a thrombosis prophylaxis with low molecular heparin was started at 18 weeks of pregnancy due to a known Factor V Leiden mutation. Due to obstructed labour a secondary Caesarean section was performed when uterine atony occured with an estimated blood loss of 1000 ml. Immediately after delivery our patient developed severe thrombocytopenia (minimal platelet count 34 G/l), microangiopathic haemolysis (elevated fragmentocytes/reticulocytes/LDH, low haptoglobin) and acute kidney dysfunction (maximal creatinine level 142 μmol/l). HELLP syndrome was ruled out by normal liver enzymes and normal uric acid level. In addition a computertomography showed a thrombosis of the left ovarian vein and pleural effusion. Thrombotic thrombocytopenic purpura as possible differential diagnosis could be excluded by normal ADAMTS-13 analysis. So mild aHUS was suspected but genetic analysis is still outstanding. ICU treatment included transfusions of platelets and red blood cells, corticoid therapy and systemic heparinisation. Rapid clinical improvement allowed for hospital discharge on day 15 after admission and the patient fortunately showed no long-term consequences so far.

Conclusions: Although pregnancy-associated aHUS is rare, the complications can be life-threatening. Thus, differential diagnosis for aHUS in women with severe postpartum thrombocytopenia should be considered and interdisciplinary management is required. Therapy in severe cases includes plasmapheresis or medical treatment with Eculizumab. Genetic analysis is essential for the management in further pregnancies.
Postpartum Group A Streptococcal Necrotizing Fasciitis of the Breast, Case Report

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Introduction: Necrotizing fasciitis of the breast (NFB) is a form of fulminant destructive infection involving the skin, subcutaneous tissue, fascia and glandules. The mainstay of treatment is early surgical debridement, antimicrobial therapy and physiologic support. The implicated organisms are divided in 2 groups: Type I, polymicrobial and Type II, Group A Streptococcus (GAS). GAS is an aerobic gram-positive coccus that causes various infections. Incidence of severe GAS infections is increasing worldwide. NFB is an extremely rare phenomenon, with only 9 cases described, none of them only with GAS isolated in biopsies, as in this case. NF is associated with considerable mortality: 14-34% in Type II (up to 70% when associated with streptococcal toxic shock syndrome), even with optimal therapy.

Material and Methods: We report a case of unilateral GAS NFB in a 37-year-old healthy female, 10 days after spontaneous delivery.

Results: The patient presented with a 3-day history of fever and left breast pain and swelling. She was breastfeeding. On admission, she had fever (38.3°C), was hemodynamically stable and the breast was red and tender with a blackish discoloration involving the outer quadrant. Ultrasound was unsuspicious. Blood investigations revealed Leucocytes 9.4G/l and CRP 562. We began Co-Amoxicillin 2.2g 3xd. The patient then developed rapidly progressive blisters over the affected breast and inflammation signs up to the mid-chest-line. She was given cabergoline, broad spectrum antibiotics and was urgently transferred to a central hospital for surgical debridement. The infective necrotic focus involved the whole breast skin, subcutaneous tissue, fascia and glandular structures. Biopsies showed a GAS infection. The patient had 7 operations, resulting in a partial mastectomy with the whole skin removed as well as the left flank’s deep fascia. After 3 weeks the surface was closed by split-skin grafting.

Conclusion: Necrotizing Mastitis is a rare clinical condition that may result in loss of the breast or even death when not promptly diagnosed and correctly treated. To the best of our knowledge, this is the first reported case of a Type II (Group A Streptococcal) NFB. It is associated with an overall mortality of 23%, but the mortality rate for NF by GAS is unknown, therefore, accurate diagnosis, early surgical intervention and antibiotic therapy is of outmost importance.
Peripartum Cardiomyopathy following preeclampsia in a 45-year-old patient: a case report

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Introduction: Peripartum cardiomyopathy is an idiopathic acute onset heart failure that affects 1 in 300 to 4000 women in their late stage of pregnancy or in the early months of postpartum. It has a significant impact on maternal and infant morbidity and mortality. Although its etiology remains unknown, some risk factors such as ethnicity, age and history of preeclampsia have been identified.

Case report: A 45-year-old primigravida presented to the emergency room six days after an emergency cesarean-section for preeclampsia with cough and dyspnea. She presented hypotension, tachycardia, tachypnea and low peripheral oxygen saturation. Investigations revealed a bilateral pleural effusion and an echocardiography confirmed acute systolic heart failure. Based on history, clinical signs and symptoms and further exams we concluded that the patient developed peripartum cardiomyopathy. A treatment based on assisted non-invasive ventilation, diuretics, angiotensin-converting-enzyme inhibitors and beta-blockers was initiated and the patient was stabilized in a short period of time. During hospital stay, we observed an improvement of left systolic function and the patient was discharged eleven days after onset of symptoms.

Conclusion: Although it is a rare condition, peripartum cardiomyopathy must be evoked in the differential diagnosis of dyspnea in the peripartum period, especially with risk factors such as preeclampsia or advanced age. When it occurs during pregnancy, timing and delivery mode depend on hemodynamic stability of the patient. In addition to the usual treatment of acute heart failure, Bromocriptine has been described as a potential treatment in case of cardiopulmonary distress, although more studies are required. Regarding the high risk of recurrence in further pregnancies, efficient contraception is highly recommended.
Spontaneous Postpartum Hepatic Rupture associated with HELLP Syndrome

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Introduction: Spontaneous hepatic rupture is a rare, but life-threatening, complication of HELLP (haemolysis, elevated liver enzymes and low platelet count) syndrome with an incidence of <2%. Common clinical signs include sudden onset of severe right upper quadrant or epigastric pain, right shoulder pain or hypovolaemic shock. Cornerstones of the diagnosis are clinical examination, laboratory findings and liver imaging. A successful management combines surgical intervention and aggressive supportive therapy. The maternal mortality rate is high and ranges from 18% to 86%. Death results largely from complications such as disseminated intravascular coagulation (DIC), pulmonary edema or acute renal failure.

Clinical case report: We report a case of a 39-year-old primigravida, admitted at 33.1 gestational weeks with epigastric and thoracic pain. The patient was normotensive without proteinuria, cardiac etiology was excluded. Laboratory findings revealed elevated liver enzymes (AST 97 U/I, ALT 108 U/I, LDH 260 IU/I), normal platelet count and elevation of sFlt-1/PLGF (400, cut-off value >85). After concluded fetal lung maturation caesarean section was performed with delivery of a healthy boy. On the first day postpartum the patient suffered of progressive abdominal and right shoulder pain. Haemoglobin (70 g/l) and platelets (53 G/l) dropped significantly, liver enzymes increased drastically (AST 617 U/I, ALT 549 U/I, LDH 867 IU/I) and the patient developed a hypovolaemic shock. Ultrasound and CT-scan showed a large haematoma reaching from the right liver lobe down to the lower abdomen. Surgical exploration revealed several tears of the right liver lobe capsule and an intraperitoneal haematoma. Perihepatic packing was performed. The patient was transfused with 5 units of blood, 500ml cell-saver-blood and 3 units of platelets. Second-look laparotomy for pack removal was done after 48 hours. Postoperative MRI showed regressive subcapsular haematoma and no free peritoneal fluid. The patient and her child were discharged 12 days after the second-look laparotomy in good condition.

Conclusion: Spontaneous hepatic rupture should be considered as a potential diagnosis in pregnant or postpartum patients with sudden onset of epigastric or shoulder pain and signs of hypovolaemic shock. Fast diagnosis and interdisciplinary treatment is the key to decrease the mortality rate of both the mother and the child.
Acute fatty liver of pregnancy: a case report

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Introduction: Acute fatty liver of pregnancy is a potentially rapidly progressive disorder occurring in 1 of 7000-20,000 pregnancies in the third trimester. It is defined by microvesicular fatty infiltration of hepatocytes. The most frequent symptoms are nausea, vomiting, abdominal pain, malaise, anorexia and jaundice; about 50% of patients have signs of preeclampsia. Complications include central diabetes insipidus, pancreatitis, disseminated intravascular coagulation, coma, severe hepatic failure requiring liver transplantation, and death. Management includes stabilization of the mother and rapid delivery under close monitoring. Recovery is usually complete in the absence of severe complications. An association with genetic fatty acid metabolism disorders has been observed and must be documented because of an increased risk of sudden death in affected infants through non-ketotic hypoglycemia or cardiomyopathy. Recurrence risk for future pregnancies is 25% regardless of the presence of a genetic disorder.

Case report: We report a case of a 35-year-old primigravida in the 38th week of pregnancy, known for type III Ehlers-Danlos syndrome, who was admitted with generalized pruritus, malaise, jaundice, discolored feces and polydipsia. Laboratory testings showed mild global liver dysfunction, acute renal failure and hypoglycemia, and the abdominal ultrasound was compatible with hepatic steatosis. There were no signs or symptoms of preeclampsia. She was delivered by caesarean section the same day, with normal neonatal outcome. Post-partum course was slowly favorable with transient antihypertensive therapy needs for two weeks, and liver function normalization in 6 weeks. Genetic fatty acid metabolism disorders were excluded in the newborn and the acylcarnitin-profile in both mother and child was normal.

Conclusion: Although rare, acute fatty liver of pregnancy is part of the differential diagnosis of hepatic dysfunction in late pregnancy. It can be difficult to differentiate from other hepatopathies, but must be recognized because of its potentially catastrophic outcome. Hepatic biopsies are usually not required for the diagnosis if the presentation, laboratory and imaging results are compatible. They should be kept for severe cases with diagnostic doubt. Women with a history of acute fatty liver of pregnancy must be monitored closely for hepatic function in subsequent pregnancies. No association has been described with Ehlers-Danlos syndrome.
Observations on the umbilical cord of conjoined twins

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Introduction: Conjoined twins (CT) is a rare complication of monozygotic twinning (MZ) in which the division of the two embryos is incomplete. Although these pregnancies are in the focus of interest, remarkably little is known on the formation and morphology of the umbilical cord (UC) and its vessels. We present two cases of conjoined twins in which sonographic and histologic information's of the UC were available.

Case 1 was a 45-year old G1 after ART with a dichorionic-diamniotic triplet pregnancy with one normal fetus and a thoracopagus CT. The hearts were separated with a small pericardial connection. A c-section was performed at 31 weeks because of preeclampsia. The CT were successfully separated soon after delivery. A big UC containing 6 vessels covert by an amniotic epithelial layer was confirmed. However, at the placental site an insertio furcata like situation of two central positioned UC’s was noted. Case 2 was a 30-year G3 with thoracopagus CT with one dysplastic heart and exomphalos. Pregnancy was terminated with 16 weeks. Similar to case 1, an insertio furcata of two UC’s was noted, which merged to form one UC containing however only 4 vessels, 2 arteries and two veins embedded in Wharton's jelly and covert by amnion. In both cases at the fetal side the two UC’s diverge again but connected by an amniotic membrane.

Discussion: The development of the UC and its vessels is a complex process starting at the 3rd week and tiddly linked to the spreading of the amniotic cavity. While in diamniotic MZ cases the two insertions of the UC are distant from one another, in monoamniotic (MA) cases both UC’s lie centrally side-by-side. In our cases a variant of insertio furcata was noted in which 2 separated UC fused to form a plurivessel UC. This difference between MA and CT, may be explained by the fact that the twinning process takes place at different time points around the formation of the body stalk. The later splitting of the inner cell mass in CT may explain our findings. It is noteworthy that the number of vessels found within our UC’s differs. We have no god explanation for that. Even in singletons the appearance of UC’s with single artery is enigmatic. A leading hypothesis is that one of initial two arteries obliterates due to early placental problems. However, this explanation does not fit for CT as the UC insertions are usually located centrally. Possibly, the number of the UC vessels in case 2 may be influenced by the single heart situation.
Fetal Williams Beuren Syndrome – a rare prenatal diagnosis

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Introduction: Williams Beuren syndrome (WBS) is a rare multisystem genetic disorder caused by microdeletion on chromosome 7q11,23. WBS was first described in 1961. It is transmitted in an autosomal dominant manner. Nevertheless most cases of WBS have been described as sporadic de novo occurrences. The syndrome is usually diagnosed during childhood, at a mean age of 4 years. WBS is characterized by distinctive facies, connective tissue abnormalities, mental retardation, growth deficiency, cardiovascular anomalies (70% supra-valvular aortic stenosis) and endocrine abnormalities. Clinical diagnostic criteria are available for WBS; however, the diagnosis is performed by detection of the contiguous gene deletion of the Williams-Beuren syndrome critical region that includes the elastin gene. Even though the postnatal phenotype has been well characterized prenatal diagnosis is rarely described. The prenatal identification of the WBS cannot easily be performed because only few features of the WBS phenotype can be assessed and investigated by ultrasound.

Case report: At 36 weeks of gestation, a 41-year old woman III gravida I para was referred for intrauterine growth retardation (IUGR). The woman had already given birth to a healthy child. The nuchal translucency and second trimester anomaly scan had been normal. The sonographic work-up showed disproportionately shortened long bones and facial dysmorphia. The possibility of a complex congenital anomaly, e.g. skeletal dysplasia was discussed with the couple and an amniocentesis was obtained for cytogenetic analysis. WBS was diagnosed by microarray and showed the presence of WBS critical region microdeletion 7q11,23.

Conclusion: Intrauterine growth restriction associated with shortened long bones and facial dysmorphia can be an early sign of WBS. Based on ultrasonographic abnormalities prenatal diagnosis of WBS allows an early transfer and delivery in a perinatal centre with specific care.
Classical Hodgkin lymphoma detected in an asymptomatic patient using NIPT – a case report

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**Introduction:** Noninvasive prenatal testing (NIPT) for fetal aneuploidy has become a well-established genetic prenatal test. Next to fetal DNA, maternal tumor DNA may be detected by analyzing the cell free DNA in maternal plasma as well.

**Material & Methods:** We describe the case of a 25-year-old patient in which cell free DNA of a classic Hodgkin lymphoma was detected using NIPT. Massive parallel sequencing was the method used in the NIPT.

**Results:** The asymptomatic primigravida came to our clinic in the 9th week of pregnancy for regular checkup. Due to an elevated risk for trisomy 13/18 in the first trimester test, a NIPT was performed. After NIPT was inconclusive further sequencing revealed amplifications in the regions 4q23-q24 and 9p24, consistent with maternal Hodgkin lymphoma. In an extended tumor search enlarged supravacervical lymph nodes were detected. The classic Hodgkin lymphoma was confirmed by histopathological analysis of a biopsy of the lymph nodes. Magnetic resonance imaging (MRI) showed Ann Arbor stage IIIa. An interdisciplinary board decided to watch and wait due to the stable tumor situation. The pregnancy went on without complication. The classic Hodgkin lymphoma underwent regular checkups and revealed stable disease. A healthy girl was born in the 38th week of pregnancy after induced labor. Chemotherapy with an ABVD (Adriamycin, Bleomycin, Vinblastin und Dacarbazin) scheme was started shortly after labor. Our patient went into full remission after 6 cycles.

**Conclusion:** This case report shows that cell free DNA testing can reveal maternal malignomas in asymptomatic patients. When applying NIPT patients should be informed about rare detection of maternal diseases.
Two consecutive cases of gestational trophoblastic disease in mother and daughter. A case-report.

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Introduction: The incidence of molar pregnancy in Asia is reported to be 2 per 1000 pregnancies, whereas in Europe and North America the incidence seems to be much lower with 1 per 1000 pregnancies. The most common form is the hydatidiform mole (HM), and it is also the only form that has been seen to be recurrent in the same patients. In western countries, studies by several groups of various countries have shown that 1% to 2% of patients with a prior mole have a second one. Two maternal-effect genes, NLRP7 and KHDC3L, responsible for this condition, could be identified. We report on a family with two consecutive molar pregnancies – one in the mother and a second one in her daughter - within one year and discuss on the probability of a hereditary disease in this family.

Case: A pre-menopausal 51-year old woman of tunisian origin presented with a persistent vaginal bleeding with a duration of three weeks. She had had six pregnancies followed by six vaginal deliveries, the latest child being born 15 years before in 2000. A urinary pregnancy test yielded a negative result. Ultrasonographically, an endometrial thickness of 80mm with inhomogeneous structure was shown. An aspiration biopsy showed no representative material. Subsequently, an abdominal CT was undertaken and a hysteroscopy with curettage was planned. On the occasion of an increased vaginal bleeding in the course of the next day, an emergency hysterectomy was performed. The histology showed an invasive complete mole. The HCG level was at 20’934 mU/ml 1 week after hysterectomy. WHO risk score was 4 at time of diagnosis. The patient was presented at an interdisciplinary tumorboard and then underwent further image-staging as well as regular controls in the context of follow-up care. According to the low-risk situation, no chemotherapy was performed. The patient fully recovered from the disease. HCG levels are below 0 since 3 months postoperative. Almost exactly one year later, her 33-year old daughter presented with a complete hydatidiform mole with HCG levels at maximum 270’120 mU/ml. It was her fourth pregnancy, after having had two vaginal deliveries as well as one missed abortion.

Discussion: The probability for a hereditary form with NLRP7-mutation is extremely small in this case, as the patients had had unproblematic deliveries before, whereas familial recurrent hydatidiform mole is an exceedingly rare clinical condition, affected women being unable to carry out a normal pregnancy.
Antenal diagnosis of congenital coronary artery fistula

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A coronary artery fistula (CAF) is a rare anomaly with an incidence of 0.2-0.4% among all congenital heart diseases. However it remains the most frequent lesion among the coronary anomalies, but rarely diagnosed prenatally.

We report on a 21 week old fetus who was referred to our clinic with a hypoplastic aorta diagnosed at the 2nd trimester morphology scan. The Fetal echocardiography confirmed the hypoplastic aorta, but color Doppler imaging showed additional findings: diastolic retrograde flow in the ascending aorta and unusual accelerated flow along the left atrioventricular groove entering the right atrium. Those associations raised the suspicion of a coronary fistula, confirmed by a thorough study of the aortic root and coronary arteries. During follow-up scans until 38 weeks, progressive right chambers enlargement and tricuspid regurgitation without significant cardiac failure were noted. Delivery was planned with immediate availability of pediatric cardiologist and cardiac surgeon. Postnatal echocardiography confirmed the diagnosis and showed a major systemic flow steal in the ascending aorta through the CAF. A cardiac catheterization was performed in the first day of life to confirm the diagnosis and precise the anatomy of the fistula, and exclude a coarctation of the aorta. Percutaneous closure of the CAF could not be performed due to main coronary branches originating close to the drainage site of the CAF in the coronary sinus. A surgical ligation of the CAF was successfully performed the following day and the baby was discharged home one month later.

CAF originate more frequently from the right coronary artery (60%) and drain either into a cardiac chamber or into a systemic or pulmonary circulation, bypassing the myocardial vascular bed. Postnatal outcome vary with the localization (proximal vs. distal), the size and the degree of shunt associated with the CAF. Diastolic reverse flow in the ascending aorta and hypoplasia of the aorta and the aortic isthmus reflect the severity of the "vascular steal" and is therefore the key factor for the prenatal diagnosis and the prognosis. Small and distal CAF have very limited hemodynamic consequences and will probably be missed prenatally, but most of them will remain silent or will close spontaneously after birth.
Ruptured heterotopic cornual pregnancy - surviving intrauterine twin

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Introduction: In heterotopic pregnancy intra- and extraterine gravidities occur simultaneously. Its incidence after spontaneous conception is approximately 1:30'000 to pregnancies, and after in vitro fertilization up to 1:100 pregnancies.

Material and Methods: Our case reports about a heterotopic pregnancy of an intrauterine embryo and an interstitial pregnancy with cornual rupture at 6+2 weeks of pregnancy. Patient became pregnant by in vitro fertilization. The therapy of the interstitial pregnancy and ongoing pregnancy of the intrauterine embryo is described in this case report.

Result – Case Report: A 30 year old patient was referred to our clinic at 6+1 week of pregnancy with diffuse abdominal pain. After in vitro fertilization with transfer of two embryos an intact intrauterine singleton gravidity was diagnosed. Due to the symptoms the patient was hospitalized for observation and analgesia. The next morning patient complained about nausea and orthostatic problems. A blood sample showed a decrease of haemoglobin from 116g/l to 65g/l. An immediate transvaginal ultrasound was performed, which showed a vital intrauterine embryo, but also a large amount of intraabdominal fluid. As the presentation was highly suspicious for a ruptured ectopic pregnancy an emergent laparoscopy was performed. Laparoscopic situs revealed a distinct hematoperitoneum, due to a ruptured cornual pregnancy on the left side, were the salpingectomy had been performed one year before. Abdominal lavage was performed and the gestational product was removed in an endobag. Hemostasis was achieved by 2 Z-sutures of the cornu uteri. At the end of the operation a transvaginal ultrasound showed an intact intrauterine pregnancy.

Conclusion: Heterotopic pregnancy is a rare condition, but has become more frequent as the number of IVF pregnancies is increasing. Therefore we may expect a higher rate of heterotopic pregnancies in the future, as long as two-embryo transfers are still practiced. Heterotopic cornual pregnancy is even less frequent than a tubal ectopic pregnancy. Review of literature shows that interstitial pregnancies account for just 2-4% of all tubal pregnancy. However some studies report, that after IVF up to one third of all ectopic pregnancies are interstitial pregnancies. Gynecologists should be aware of heterotopic pregnancy – especially after use of artificial reproductive technology – when a patient presents with unclear lower abdominal pain within first trimester.
Squamous cell carcinoma arising from a dermoid cyst in a 20 year old patient: a case report

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Introduction: Dermoid cyst is the most common ovarian germ cell tumor making up to one fifth of all ovarian tumors. Malignant transformation occurs only in 1-2% and in those cases mostly (80%) into squamous cell carcinoma. Typically malignant transformation occurs in postmenopausal women.

Methods: This report is about a 20-year old patient who first presented to her GP with abdominal pain and hematochezia. The sigmoidoscopy showed an ulcerative tumor 25 cm from the anus. The biopsy showed an anaplastic squamous cell carcinoma, most likely of gynecological origin. In the computer tomography a 8x5cm necrotic tumor was detected in the Douglas pouch. The tumor marker CA-125 was elevated at 86.9 U/ml, while CA 19-9, AFP, b-HCG, NSE, Chromogranin A, SCC and 5-HIAA were normal. The gynecological examination especially of the vagina and cervix showed no pathologies. Therefore a diagnostic laparoscopy with biopsies from the omentum and the ovary, which was enlarged and invaded the sigma, was performed in our service. Again squamous cell carcinoma was diagnosed and due to strong p16 positivity in IHC and the intraoperative findings the suspicion of malignant transformation of a dermoid cyst expressed.

Results: The staging operation with bilateral salpingoovarectomy, hysterectomy, omentectomy, resection of sigmoid and ileocecum as well as pelvic and para-aortal lymphadenectomy confirmed the diagnosis of a squamous cell carcinoma arising from a dermoid cyst. Due to positive lymph nodes the stage was FIGO IIIC. After interdisciplinary tumor-board discussion we decided to give an adjuvant chemotherapy with Carboplatin and Taxol.

Conclusion: Squamous cell carcinoma arising in a dermoid cyst is a very rare disease. In our knowledge, only one such young patient with malignant transformation has been described in the literature. This again underlines, that even in very young patients a rigorous diagnosis is indicated for suspicious ovarian tumors.
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Pregnancy two years after negative pressure wound treatment for uterine incision necrosis following the first cesarean section

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Introduction: In 2015 we presented a case of an extended-spectrum β-lactamase sepsis post-partum with concurrent uterine incision dehiscence after Caesarean section with T-shaped incision which occurred in a 29-year-old patient after her first delivery. Following an exploratory laparatomy with a diagnosis of necrosis of the anterior uterine wall, a uterine negativ-pressure wound treatment (NPWT) was performed, successfully avoiding hysterectomy and enabling secondary suture of the uterine wall.

Case: In this case report we want to summerize the case and continue with the second pregnancy of these patient. Nearly two years later the same patient delivered again a healthy child via Caesarea section after a well planned and well controlled pregnancy. The intraoperative situs was nearly normal. There were no complications during or after the operation.

Discussion: Uneventful pregnancies are possible after temporary open abdomen treatment with negative pressure wound treatment and secondary closure of the uterine incision. It is an acceptable alternative to hysterectomy for uterine incisional necrosis.
Late Gestational Idiopathic Constriction of Fetal Ductus Arteriosus: A Case Report

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Introduction: Premature constriction of the fetal ductus arteriosus (DA) is an underdiagnosed condition. It is described secondary to medication with Indomethacin and other nonsteroidal anti-inflammatory drugs (NSAID) or as an idiopathic stenosis. It can lead to progressive right heart dysfunction, congestive heart failure, fetal hydrops and intrauterine death.

Material and methods: We present the case of a 28-year-old primigravida who was referred at 37+6 weeks of gestation (WG) because of oligohydramnios. Routine ultrasound screening at 20 WG showed normal heart morphology. The intake of Indomethacin or other NSAID was denied. On admission fetal ultrasound confirmed oligohydramnios with AFI of 3.3 cm; estimated fetal weight was 3100g (P50). The cardiotocography showed a single prolonged severe deceleration and an acoustic arrhythmia. No uterine contractions. Due to the CTG findings a fetal ecography was performed by the senior gynaecologist who diagnosed right heart dilatation and referred the patient to the pediatric cardiologist for detailed diagnosis. Right atrial dilatation, right ventricular hypertrophy and dilatation, severe tricuspid and pulmonary valve regurgitation and a small and tortuous S-shaped DA with maximum velocity of 244 cm/s were found. All signs were consistent of an idiopathic severe constriction of DA. The patient was transferred to a tertiary centre for further management and delivery.

Results: A cesarean section was performed at 38+0 WG. A female neonate of 3000g was born. Apgar scores were 8, 9 and 9 on 1, 5 and 10 minutes, respectively. Low-flow oxygen administration by mask was required from the 4th minute to the 30th minute of life. The arterial pH was 7.24. Postnatal echocardiography revealed mild right atrial dilatation, mild right ventricular hypertrophy and moderate tricuspid insufficiency. The neonate was discharged after 3 days in stable condition. One month follow up showed only persistency of mild tricuspid insufficiency and progressive normalization of pulmonary hypertension.

Conclusion: Intrauterine constriction of DA in the absence of triggering factors is a rare phenomenon. Diagnosis of this condition in the third-trimester is difficult. Careful examination of the ductal arch using pulsed wave Doppler flow including complete fetal echocardiography is important to rule out structural congenital heart disease. Close monitoring is mandatory to exclude right heart failure and determine intervention time.
Uterus-like mass: case report of a rare condition

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Introduction: Uterus-like mass is a rare entity often misdiagnosed with about 20 cases reported in the literature. This mass is composed by smooth muscle with a cavity lined by endometrium, usually causing pain during menstruation. It can develop from various organs in the abdominal cavity including ovaries, broad ligament or small intestine. Several hypotheses have been proposed about its histogenesis including metaplasia, congenital anomaly of Müllerian system, and heterotopia theory.

Case: We describe a 37 years old nulligest patient who presented chronic pelvic pain unrelated to menstruation with an adnexal mass of 4 cm palpated during bimanual examination. Ultrasound exam showed a left echogenic mass of 3 cm, continuous with the uterus, thought to represent either a submucosal fibroid or an atypical hematosalpinx. MRI of the pelvis was performed showing a FIGO VII fibroid with hemorrhagic degeneration. The patient underwent a laparoscopy that revealed a parauterine mass of fibroid appearance requiring dissection of broad and round ligaments. Pathology showed a mass composed of myometrium focally lined with an endometrium of atrophic aspect.

Conclusion: The histogenesis of a uterus-like mass remains unclear. Although rare, uterus-like mass should be considered in the differential diagnosis of chronic pelvic pain associated with a mass of an unknown origin. Moreover the mass should be surgically removed, a case-report indicating that malignant tumours may occur from a uterus-like mass through the pathway similar to the carcinogenesis of endometriosis-related ovarian neoplasms.
An extremely rare case of cervical leiomyosarcoma following hysterectomy for benign disease.

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**Introduction:** Benign uterine leiomyomas are the most common pelvic neoplasm in women; in contrast, uterine sarcomas are rare with an incidence of 3-7 /100’000 women. Sarcomas of the uterine cervix are extremely rare and constitute < 1% of all cervical malignancies.

**Materials and Methods:** We present a rare case of cervical leiomyosarcoma following hysterectomy for benign disease. A 50 year-old perimenopausal patient was evaluated for an 8 cm solid mass of unclear origin in the lower pelvis, eight years after abdominal hysterectomy due to uterine fibroids. A CT scan in 2015 performed for unrelated reasons demonstrated a 6 cm mass, presumed to be a benign, residual fibroid or adnexal tumor. At the time, the patient declined further interventions. A follow-up gynecological ultrasound in 2016 revealed a solid mass in the lower abdomen which had grown in comparison to the CT findings 1.5 years earlier and the decision to perform an exploratory laparoscopy was made. The CA-125 value/risk of malignancy index (RMI) were in normal range.

**Results:** A 9 cm mass of the cervical stump was found intraoperatively, which was adherent to the left adnexal region. After lysis of the adhesions and mobilization of the mass, it was placed in an endobag and extracted through the vagina after in-bag morcellation. As the macroscopic appearance was suspicious, a frozen section was performed and revealed a myxoid tumour with hyaline necrosis with elevated mitosis (12/10 HPF). Due to suspicion of leiomyosarcoma, the operation was completed by performing a bilateral salpingo-oophorectomy. The final histological report confirmed the preliminary diagnosis of leiomyosarcoma. She was staged as FIGO II, since a hysterectomy had been previously performed. A postoperative CT-scan revealed no sign of metastasis. Regular clinical follow-ups every three months and CT scans bi-annually are planned.

**Conclusion:** Given the extreme rarity of leiomyosarcomas of cervical stump, proper treatment and follow-up remain unclear. Only one such case in the literature has been previously reported. We believe that serious consideration should be given regarding potential future complications, such as in this case, before performing a supracervical hysterectomy. Heightened suspicion for leiomyosarcoma based on preoperative sonographic findings is important for correct operative management and predictive risk models such as the Leuven-Score may prove to be useful in this respect.
Placenta previa percreta with bladder invasion: a case report of successful interdisciplinary management

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Introduction: Placenta percreta is a condition in which the placenta abnormally penetrates through the myometrium and the uterine serosa with potential invasion of surrounding organs. This condition is related to significant maternal and fetal morbidity and mortality. Prompt diagnosis and proper management at time of delivery are fundamental to minimize the risk of complications.

Methods: We describe the case of a 34-year-old woman, II-gravida I-para, presenting a placenta praevia percreta with urinary bladder invasion. The patient was referred to our attention at 12 weeks of gestation (WG) for vaginal bleeding, with a history of prior caesarean section 2 years earlier due to fetal breech presentation. Transabdominal ultrasound showed a low inserted placenta which filled out the whole inferior uterine segment. At 16 WG sono- graphic features suggesting abnormal invasive placentation were present: loss of clear myometrial zone, abnormal placental lacunae, placental bulge and bridging vessels from placenta into bladder. An MRI at 29 5/7 WG confirmed the strong suspicion of placenta praevia percreta. In order to plan the safest management for both mother and child, obstetricians, anaesthetists, vascular surgeons, urologists and paediatricians were all consulted. The case was discussed with the European Working Group on Abnormally Invasive Placenta who approved our management.

Results: Elective intervention was planned at 35+6 WG in spinal and peridural anesthesia. We initially performed a cystoscopy with bilateral ureteral stenting. Afterwards a median laparotomy with transverse uterotomy followed by total hysterectomy was carried out without attempt to remove placenta. Uterine gauze packing in order to avoid partial placental abruption was undertaken. Inevitable bladder lesions were subsequently repaired. Overall estimated blood loss was 1200 ml. Postoperative haemoglobin was 94 g/L and no transfusion was needed. The newborn showed good neonatal adaptation without delivery associated complications. Convalescence was uneventful and both patients were discharged at home on day 8 postoperatively.

Conclusion: Placenta praevia in patients with a history of previous caesarean section is a high risk condition for placenta percreta. Accurate sonographic evaluation is mandatory in these patients. Magnetic resonance imaging may assist in establishing the correct diagnosis. Proper planning and multidisciplinary approaches are fundamental in order to limit neonatal and maternal complications.
Torsion of pedunculated subserous myoma -
a rare cause of acute abdomen

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Introduction: Uterine leiomyomas are a common problem and often present with chronic complaints including bleeding disorders, dysmenorrhea, pelvic pain, dysuria or infertility. However, they may occasionally present in acute, unexpected ways requiring immediate surgical attention. Delay in diagnosis and treatment may result in severe complications including peritonitis and intraabdominal bleeding.

Materials and Methods: We describe the case of a 38 year old woman, Gravida 0, who presented to the emergency ward complaining of abdominal pain of 24 hours' duration, which had started with menstruation. In the three hours prior to presentation, the pain had steadily increased in intensity. The physical examination revealed abdominal tenderness and guarding. The last gynecological examination was performed eight years ago. An abdominal ultrasound revealed a large amount of free fluid suspicious for hemoperitoneum, as well as uterine fibroids. The ovaries appeared normal without any masses. A pregnancy test was negative. The patient's laboratory results demonstrated a red blood cell count of 100 g/L, a white cell count of 14,18x10^9/L and a CRP value of 19,9mg/L. The decision to perform emergency laparoscopic surgery was made.

Results: Upon entering the pelvic cavity, a massive hemoperitoneum of 2 L volume and a 8 x 9 cm subserosal leiomyoma with partial torsion and bleeding at its pedicle was identified. The myoma was excised and extracted after in-bag morcellation through the intraumbilical trocar site. The histopathological report showed a benign leiomyoma with partial necrosis due to the torsion. The postoperative course was uneventful and the patient was discharged five days after surgery.

Conclusions: Among uterine leiomyomas, subserosal fibroids are the second most common type after the intramural type. They are usually asymptomatic but can manifest in unusual ways, as in this case with an abdominal emergency due to torsion leading to infarction and hemorrhage. Various imaging tools such as ultrasound, CT scan or MRI may be helpful in diagnosing torsion of a leiomyoma. Observant management is possible if the symptoms are minimal. A laparoscopic exploration was inevitable in this case due to the severe symptoms and hemoperitoneum.
A rare case of focal cystic endometriosis of the uterus mimicking a tubo-ovarian abscess

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Introduction: Endometriosis is a chronic disease affecting the pelvic organs, which may have a great impact on fertility and quality of life. In most cases, endometriosis lesions are found on the surfaces of the pelvic organs and have a typical appearance, and result in complaints of chronic abdominal pain. In rare situations, it may present with acute symptoms due to rupture of an ovarian endometrioma. We describe the unusual case of endometriosis presenting as an acute abdominal emergency mimicking a tubo-ovarian abscess (TOA).

Materials and Methods: We present the case of an 18 year-old woman, Gravida 0, who was admitted to our service complaining of acute pelvic pain for four hours’ duration, which had steadily increased in the last two hours. Menstruation with dysmenorrhea had started one day before presentation. The medical history was unremarkable. She had a regular menstrual cycle with severe dysmenorrhea, since stopping oral contraceptives one year ago. Physical examination revealed abdominal tenderness with rebound. Initial laboratory results showed a slightly elevated white cell count of 12.5×10⁹/L and a significantly CRP level of 147mg/L. Transvaginal ultrasound showed a normal uterus and a 7 cm cystic structure in the cul-de-sac, which appeared to originate from the right ovary. The diagnosis of TOA was made and intravenous antibiotics started. The patient failed to improve and after two days the decision to perform a diagnostic laparoscopy was made.

Results: A huge cystic structure originating from the posterior uterine wall without any contact to other structures was found intraoperatively. The ovaries and adnexa showed no evidence of TOA. The mass was excised and placed in an endobag. The fluid contents were aspirated and were clear. The bag and its contents were extracted through the intraumbilical trocar. Histopathological examination revealed cystic endometriosis with signs of inflammation. All microbiological tests were negative.

Conclusions: This case is an rare example of endometriosis presenting as a large, unifocal, cystic lesion originating from the uterus with no other sites involved. Although the ultrasound and clinical presentation were suggestive for TOA and PID is a relatively common diagnosis in young women, other possibilities such as endometriosis should be considered if they are known to have chronic symptoms suggestive of this disease.
Acute bladder retention in a case of deep infiltrating endometriosis

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Introduction: Deep infiltrating endometriosis (DIE) presents with dysmenorrhoea, dyspareunia and depending on the localisation of the lesions urinary or intestinal dysfunction. Below we report a rare case of acute urinary retention in a patient newly diagnosed with DIE.

Case report: A 29-year-old nulligravida was admitted to the emergency room with rectal spasms and urinary retention for the last 14 hours despite a strong urge. Symptoms appeared with the onset of menstrual bleeding. She reported progressive dysmenorrhea and rectal pressure as well as spasms during menstruation during the previous 4 months. One year ago she had stopped the long-term use of a combined oral contraceptive. Bimanual palpation revealed a knot (4cm in diameter) in the right posterior fornix extending to the pelvic wall. In speculum exam, it appeared as a visible blueish lesion. Transvaginal sonography showed an attachment of the sigmoid colon and rectum to the posterior vaginal wall as well as severe bladder retention. 1700mL of urine were drained via a Foley catheter. A medical therapy with distigmine and tamsulosine was initiated. DIE was suspected as the cause of the patient’s symptoms and confirmed in an MRI scan revealing a single endometriotic knot (36x 22mm) in the Douglas space infiltrating the anterior rectal wall and the right posterior fornix of the vagina and extending as far as the pelvic wall. Hence, during menstruation it caused acute impingement of the inferior hypogastric plexus leading to neurogenic bladder retention. Endocrine therapy with dienogest 2mg daily was started. After 48 hours the catheter was removed and the patient had regained full bladder function and was discharged. On follow-up two weeks after beginning of endocrine therapy the knot had clearly diminished and urodynamic exam, especially cystotonometry was normal showing no residual urine.

Discussion and conclusion: Due to the localisation and size of the knot a surgical intervention would include resection of the upper third of the vagina as well as the right parametria. Significant side effects such as persistent urinary dysfunction could be expected afterwards. Therefore, a surgical therapy cannot be recommended at present. Endocrine therapy should be continued until a pregnancy is intended and will hopefully occur without surgical therapy. If medical therapy is not sufficient laparoscopic nerve-sparing lesion removal seems to reduce the risk of persistent urinary complications.
CAESAREAN SECTION FOR SECOND TRIMESTER STILLBIRTH AFTER FAILED INDUCTION AND CONSUMPTIVE COAGULOPATHY FOR PLACENTAL ABRUPTION: A CASE REPORT

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Introduction: Management of stillbirth should be individualized on the basis of gestational age, maternal conditions, prior uterine surgery and the availability of skilled professionals. Generally in the second trimester, misoprostol induction, dilatation and evacuation are effective. Coagulation abnormalities are more prevalent with expectant management and placental abruption.

Material and Methods: A 40-year old woman, primigravida, presented metrorrhagia at 18+3 weeks of gestation. Ultrasound revealed fetal stillbirth with placental abruption and a 13x7 cm retroplacental hematoma. Induction of labor was commenced with vaginal misoprostol at the dose of 400 mcg, repeated 4 hours later. Laboratory findings showed a hypofibrinemia (Fibrinogen 0.6 g/L), thrombocytopenia (Tc 140x10e9/L) and anemia (Hb 79 g/L). Estimated blood loss was 400 mL. A consumptive coagulopathy was diagnosed. Fibrinogen, factor XIII, 2 bags of packed red cells and tranexamic acid IV were administered. Close monitoring of vital signs, coagulation assays and ultrasound follow-up allowed to continue labor induction with oxytocin followed by sulprostone IV which were both unsuccessful. Finally, after 19 hours of failed induction, a caesarean section was performed.

Results: Pfannenstiel incision and vertical uterotomy were performed. Placenta was completely abrupted and 500 mL of blood clots were evacuated. Carbetocin IV was administered followed by placement of a Bakri-balloon for uterine atony. Intraoperative blood loss was 1800 mL with severe thrombocytopenia (Tc 21x10e9/L): further packed red cells, platelets and FFP were administered. Three days after, haemoglobin (81 g/L), platelets (352x10e9/L) and fibrinogen (2.7 g/L) values improved.

Conclusion: Caesarean section in the 2^trimester is a rare event. In this case, dilatation and evacuation was not performed due to the high risks of haemorrhage, uterine atony and complications in the evacuation of the foetus. Prolonged labor induction lead to increased risk of consumptive coagulopathy and enlargement of the associated retroplacental hematoma. Full-blown DIC was avoided thanks to early supplementation of coagulation factors and close patient monitoring. A failure of labor induction might occur because of placental abruption complicated by retroplacental hematoma and enlarged uterus. Placental abruption should always be considered as a cause of 2^trimester stillbirth and it should be managed carefully to avoid maternal morbidity.
Primary osteosarcoma of the breast (PBO): a case report

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Introduction: Breast malignancies have a lot of differential diagnosis. Some of them are common, some of them are rare. This case report is about the diagnosis of the primary osteosarcoma of the breast with a prevalence of <1% of all primary breast malignancies.

Case Report: A 65-year-old woman was assigned because of a palpable mass in her left breast. She reported a contusion of the left breast few months ago with hematoma and since then pain and increasing hardening in this area. The patient had a history of papilloma excision in the left breast without complications a year ago. A microbiopsy revealed a parenchyma of the breast with partly nodularly configured histocyte aggregates and osteoclast-like giant cells without any indication of malignancy. One month later, the patient presented with a clear increase in the size of the findings and an excision was recommended. The final histology showed infiltrates of a high-grade osteosarcoma in the breast, mainly of the osteoblastic type, with chondroblastic parts. A staging by PET-CT showed no metastasis-suspicious lesions. In our interdisciplinary tumor board they recommended a further post-excision with removal of musculus pectoralis major and minor with placement of brachytherapy beads and defect cover by latissimus dorsi flap. In the case of ambiguity regarding benefits as well as the increased side-effect profile of chemotherapy and the advanced age, there was no adjuvant chemotherapy recommended.

Conclusion: PBO is a uncommon, very aggressive breast malignancy, affecting elderly patients. As shown in our case diagnosis is often challenging. According to literature the origin may be from normal breast tissue de novo or as osseous metaplasia in a pre-existing benign or malignant neoplasm of the breast or as non-phylloides sarcoma. Surgery is the treatment of choice (wide local excision with the aim of achieving clear resected margins or simple mastectomy). Due to the rarity of extraskeletal osteosarcoma, especially in the mammary region, evidence-based guidelines regarding adjuvant chemotherapy are lacking. Triple assessment approach with decision making at an interdisciplinary tumor board with consideration of the preferences of the patient should always be implemented in the setting of the management strategy.
Sexual function of women seeking care in a swiss sexual medicine consultation

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Introduction: Sexuality is a central factor of quality of life and health and should be part of the medical history. When sexual difficulties are reported by female patients, there is a need to defined the problem and evaluate the global sexual function. The Female Sexual Function Index (FSFI) is a questionnaire used in our sexual medicine consultation. The purpose of this abstract is to evaluate with the FSFI the initial sexual function of the female patients attending our consultation.

Material and methods: Patients received and completed the FSFI before their first consultation. FSFI is a validated questionnaire of 19 items, exploring 6 domains of the sexual response: desire, excitation, lubrication, orgasm, satisfaction and pain. A total score <26.55 is suggestive of sexual dysfunction. Results were collected and scores calculated. Relations between age, main complain and FSFI scores were analysed.

Results: Fortythree patients completed the FSFI. The median FSFI score was 18,2 (1,5-32,5). 90.6 % of the patients have a total FSFI score < 26.55. All the domains showed low scores with the lowest subscore for the domain “pain” (median 1.2 (0-6)). Further analysis will be presented at the meeting.

Conclusion: Not surprisingly, women seeking care in our sexual medicine consultation have a low FSFI score. « Pain » is on average the most impacted domain. It correlates with the main complain of our patients when taking sexual history.
Epigastric pain after breast cancer - A wolf in sheep’s clothing

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Introduction: Monitoring and follow up of metastatic breast cancer can be difficult and challenging in everyday practice. Clinical focus is mainly centered on liver, lungs and bones but other rarer metastatic locations exist. Any new symptom, although trivial, should be investigated in order to exclude recurrences even in the presence of reassuring radiologic exams. We present here a rare case of gastric metastasis whose diagnosis was evoked by gastroscopy whereas the standard radiological evaluation (thoracoabdominal CT-scan) was normal.

Case: 50-year-old patient gravida 2 para 2, with Gastric bypass in 2009 for adiposity and diagnosis of invasive lobular carcinoma of the left breast G2 pT1 pN3a (17/21) M0 R0, HER-2 negative, ER positiv and PR positiv in 2012. She was treated with breast conserving surgery and axillary dissection followed by adjuvant radiochemotherapy and endocrine therapy with Letrozol. In 2015, she presents a first recurrence with ovarian metastases treated by bilateral ovariectomy and a palliative treatment based on Fulvestrant every 4 weeks. In December 2016, a gastroscopy was performed because of ongoing gastric pain in face of treatment with PPI after normal thoracoabdominal CT-scan. The examination revealed chronic erosions which proved to be at the biopsy an undifferentiated adenocarcinoma ER positive 60-80%, PR <1%, HER-2 negative. The differential diagnosis evoked a primary adenocarcinoma of the stomach or a metastasis of the lobular breast cancer. In the absence of distant lesions, a total gastrectomy with oesophago-jejunostomy and omentectomy was performed. Pathologic examination showed multiple foci of infiltrating adenocarcinoma with 8/18 positive lymph nodes. The immunohistochemical studies performed showed a strong expression of CK-7, GATA-3 as well as GCDFP-15 with negative CK-20 and CDX-2 confirming a mammary origin. The patient recovered well from her operation and a palliative treatment with Everolimus and Exemestan was prescribed.

Conclusion: In our case, gastroscopy revealed an early breast cancer recurrence that could be removed. We emphasize the importance of a targeted search for metastasis in case of symptoms, despite an atypical localization and the absence of signs of recurrence at standard imaging. Primary stomach cancer with positive ER exists, especially in Asian patients but is an exception by european people. Immunohistochemistry allows the definitive diagnosis.
METASTATIC CHORIOCARCINOMA COMPLICATING A PERSISTENT PREGNANCY OF UNKNOWN LOCATION

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Introduction: Choriocarcinoma (CC) is a rare malignant gestational trophoblastic disease that can complicate pregnancy. CC is characterised by haematogenous dissemination, mainly to the lungs and vagina but also the brain, bowel and kidneys. It presents elevated levels of β-HCG. Differential diagnosis includes persistent pregnancy of unknown location (PPUL) in particular if beta-HCG levels remain elevated after systemic treatment with methotrexate (MTX).

Case: We report a 34yo healthy woman, G8P2 and carrier of copper IUD who lamented persistent vaginal spotting. The evaluation demonstrated a positive pregnancy test but no sign of intrauterine pregnancy (IUP) on transvaginal ultrasound (TVUS). Pregnancy was desired. The IUD was not removed. A follow-up was scheduled after 7 days. PPUL was diagnosed after 3 weeks with persistent β-HCG levels (137-148 IU/L) and no signs of IUP. IUD was removed and a single dose of MTX (80 mg) was administered. After an initial drop of β-HCG they started to raise and a total of 7 doses of MTX were administrated over a 5 month period β-HCG fell to 15IU/L. 1 months later, the patient presented with vaginal bleeding, β-HCG was 1863 IU/L and TVUS showed a right adnexal mass of 9 mm. Another cycle of MTX was started. 7 months after initial visit the patient presented important vaginal bleeding. Vaginal examination revealed an ulcerated mass of 3 cm on the anterior vaginal wall and β-HCG 3917 IU/L. The biopsy of the lesion demonstrated metastatic CC; chest CT and brain MRI were negative for metastases and CC was classified as low risk, score 5 (FIGO 2000) and treated with single-agent chemotherapy protocol (MTX). β-HCG levels fell to 13IU/L, the check-up visit revealed a raise to 679IU/L. Abdominal CT showed an increased diameter of the adnexal mass. A polymotherapy regimen with etoposide, actinomycin D, MTX, vincristine and cyclophosphamide was started. 5 cycles were needed until complete remission. 5 years follow up showed no evidence of relapse.

Discussion: CC is a rare tumor that can affect pregnancies. It is characterised by haematogenous spread with disseminated metastases. It should be kept in mind in cases of PPUL that show persistent β-HCG levels even after adequate medical treatment. Strict follow up is needed even after β-HCG are negative. Complete clinical evaluation and imaging should be performed in case of CC to identify secondary lesions and complete staging for an appropriate treatment.
Coexistence between Mature cystic Teratoma and ovarian Endometrioma

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Women of reproducible age can suffer from multiple different expansive masses, two of them being teratomas and endometriomas. Teratomas, habitually named dermoid cysts, predominantly occur in young women. They account for 10-20% of all ovarian tumors and are bilateral in 10 to 15% of cases. Endometriosis is a complex pathology with various presentations, one of which being endometrioma, affecting 10-15% of women of reproductive age and its physiopathology is still unclear. Despite their frequent occurrence, association between mature cystic teratoma (MCT) and endometrioma in the same ovary is extremely rare and less than five cases of this entity have been reported in the literature.

Case: We here report a rare case of a 33-years-old patient, nulligravida, referred to the Medical Institute for unclear pelvic symptoms. A gynaecological ultrasound revealed a complex heterogeneous mass of the left ovary, solid with cystic components. Pelvic MRI followed and showed a large heterogeneous and well-defined encapsulated cyst containing solid components with an intermediate signal in T2 and T1, compressing the adjacent sigmoid tube. Diagnosis of left haemorrhagic cystic teratoma was kept. Patient underwent laparoscopic surgery and the ovary ipsilateral to the cystic teratoma was found to contain a cystic endometrioma, which infiltrated the first layer of the sigmoid tube. The diagnosis of association between MCT and endometrioma was confirmed histologically. The uterus and the right ovary were evaluated as normal. The patient suffered no complications and was discharged.

Conclusion: Despite the coexistence between ovarian mature cystic teratoma and cystic endometrioma being uncommon, this possibility must be considered in the differential diagnosis of multiple ovarian tumors in the same ovary. The correct radiological diagnosis is of great value in planning treatment with the most favourable prognostic.
Case report: paraganglioma of bladder wall: a very rare finding during routine cystoscopy

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Case: A 45 years old women, para 2, underwent a urodynamic examination for a symptomatology of daily debilitating stress urinary incontinence, with rare episodes of urgency feelings. She had no history of sudden headaches, rapid heartbeat, pounding in the chest, anxiety, sweaty skin or blood during urination. After a conventional urodynamic examination, a routine cystoscopy was carried on discovering a 8-10 mm round tumor present in the bladder dome; the bladder mucosa covering this round mass had 3 small holes with well definite edges surrounded with an red hyperemic area and a rich vascularisation (fig. 1). The patient was operated with a TUR-B of this mass carried on by a urologist, followed by a conventional Burch colposuspension. The pathologists answer was: paraganglioma of bladder wall. The post-operative course was uneventful. Eleven weeks later, the patient was reoperated: a large bladder wall resection was carried on with the help of cystoscopic trans illumination of bladder wall (fig 2 and 3), discovering a microscopic residual paraganglioma focus of 3/1 mm. Post operative endocrinologists investigations showed no increased of urinary metanephrin and catecholamines. Tumors of chromaffin cells, i.e. pheochromocytomas, are derived from the embryonic neural crest, and usually originate from the adrenal medulla. However, 10% of these tumors occur at extra-adrenal sites and are known as paragangliomas. Paraganglioma of the urinary bladder is very rare and account for 0.06% of all bladder tumors and 6% of extra-adrenal pheochromocytomas, being located in the bladder in 79% of the genitourinary tract cases. They remain usually benign, but 15–20% tumors may show malignant behavior. In functional tumors, presenting symptoms are usually resulting from excessive catecholamine secretion and are mainly provoked by micturition, overdistention of the bladder, defecation, sexual activity, ejaculation, or bladder instrumentation. About 17% of bladder paragangliomas are hormonally nonfunctional and can be asymptomatic … as in our patient (1). Preoperative routine cystoscopy is a controversial subject: Focal asymptomatic vesical lesions necessating bladder biopsies or resection can be found in 0.7% to 6.9% of the women, but altering the surgical plan in only 0.5% of the cases (2,3).

Conclusions: preoperative routine cystoscopy is a costless examination, able to discover in less than 1% of the women vesical lesions to be biopsied or resected.