ORAL OBS

■ O-OBS-MD-003 .... BEST OF FOUR

THE EFFECT OF VITAMIN D LEVELS ON PREGNANCY OUTCOMES: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objectives: The aim of this systematic review and meta-analysis was to review the effect of vitamin D on pregnancy complications, particularly preeclampsia (PE), gestational diabetes mellitus (GDM), bacterial vaginosis (BV) and caesarean section (C/S).

Study Methods: In accordance with a systematic review protocol developed a priori, a comprehensive search of five electronic databases was conducted to identify observational studies measuring the association between serum 25(OH)D levels during pregnancy and the outcomes of interest (PE, GDM, BV and C/S). Two authors independently extracted data from original research, including the key indicators of study quality. The most adjusted odds ratios and weighted mean differences were pooled. Associations were tested in subgroups representing different patient characteristics and study quality.

Results: A total of 3349 studies were identified and reviewed for eligibility. There were 17 eligible studies; 8 studies on GDM, 8 on PE, 2 on BV, and 1 on C/S. Insufficient levels of 25(OH)D were associated with GDM (pooled OR 1.38, 95% CI: 1.06–1.8) and PE (pooled OR 2.04, 95% CI: 1.35–3.08). Pregnant women with GDM and PE had significantly lower levels of 25(OH)D compared to women without these pregnancy related complications. Pregnant women with low levels of 25(OH)D also had an increased risk of BV but not C/S.

Conclusions: The association between vitamin D insufficiency and pregnancy complications is concerning. While these findings are limited due to the methodological quality of the studies included in this review, further research is necessary to address these potential associations.

■ O-OBS-MFM-MD-001 .... BEST OF FOUR

FACTOR V LEIDEN (FVL) MUTATION IN WOMEN WITH PLACENTAL ABRUPTION (PA) – A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objectives: The objective was to examine the published relationship between unexplained PA of a normally implanted placenta and carrier status of FVL mutation.

Study Methods: An electronic and manual literature search identified studies for inclusion. MOOSE and PRISMA methodologies were employed and only comparative studies were included. Pregnant women with clinically and pathologically documented, etiologically unexplained PA were compared to a contemporaneous, age, parity and ethnicity matched control group with term pregnancies free of obstetric complications. The outcome assessed was carrier status of FVL mutation. Following an independent trial quality evaluation and data abstraction, the combinability of the selected studies was assessed by clinical and statistical methods. The dichotomous outcomes (presence or absence of FVL mutation) were pooled using summary odds ratios (OR) with 95% confidence intervals (95%CI). A subgroup analysis was performed on higher validity studies.

Results: 11 studies met the inclusion criteria. 8871 women were screened for FVL mutation, 627 with unexplained PA and 8244 with uncomplicated term pregnancies. Women with unexplained PA had a statistically significantly increased carrier frequency of FVL mutation as compared to those with an uneventful reproductive history: OR: 2.50; 95%CI 1.79–3.50. A subgroup analysis performed on 8 higher validity studies resulted in a similar finding: OR: 2.74; 95%CI 1.94–3.88. The sensitivity analysis did not alter any outcome.

Conclusions: In an ethnic population with a clinically meaningful prevalence of FVL mutation, the latter is a relevant and independent risk factor for unexplained PA of a normally implanted placenta.

■ O-OBS-MFM-MD-002 ....

PERICONCEPTIONAL FOLATE STATUS – IS THE RIGHT MESSAGE BEING TRANSMITTED AND RECEIVED?

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Objectives: To determine if periconceptional intake and blood levels of folic acid (FA) in an urban population of pregnant women, correspond to SOGC guidelines.

Study Methods: We recruited women presenting before 17 weeks gestation at the blood-test centre of the McGill University Health Center. Women were interviewed and had blood drawn for red blood cell folate (RBCFol), reflecting FA intake over the previous 3 months.

Results: Among 374 study participants, 24 were excluded because of incomplete data. Women had a mean age of 31.9±5.0 years, a mean schooling of 15.6±3.0 years, and a self-reported median BMI of 23.6 kg/m^2 (range: 15.6–48.4), and 55% were Caucasian. The median dietary folate intake from naturally-occurring and fortified foods was 509 μg/d (range: 186–1542); 41% of participants were below the recommended 600 μg/d. Overall, 94.3% of women supplemented with FA at some stage of the periconceptional period (3 months preceding and following conception). Among 98 (28%) women considered at higher risk by SOGC (obese, teratogenic substance use, diabetes, epilepsy, obstetric/family history of neural tube defect (NTD), noncompliance with daily vitamins), 34 (34.7%) were taking the recommended 5 mg/d periconceptionally. These high-risk women had significantly higher median RBCFol level (1404 nmol/L, range: 925–2849 vs.1243 nmol/L, range: 580–2503) compared with those taking < 5 mg/d (P = 0.001).

Conclusions: Although dietary folate intake was low overall, the majority of women had taken FA supplementation periconceptionally. Despite most high risk women taking less than 5 mg/d FA supplementation, RBCFol was at levels considered protective for NTD.

■ O-OBS-MFM-MD-003 ....

ARE WOMEN IN MONTRÉAL REACHING RECOMMENDED LEVELS OF RBC FOLATE IN EARLY PREGNANCY?

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Objectives: To assess whether women reach the recommended folate level of =900 nmol/L, reported to decrease risk for neural tube defects in early pregnancy.

Study Methods: We enrolled consecutive women presenting to the blood test centre at McGill University Health Center in Montréal before 17 weeks of gestation. Participants were interviewed and had a blood sample drawn for red blood cell folate (RBCFol), which reflects folate status in the last 3 months.

Results: We recruited 374 women; 24 were excluded because of incomplete data. Mean±SD age was 31.9±5.0 years, mean schooling was 15.6±3.0 years, self-reported median BMI was 23.6 kg/m^2 (range:15.6–48.4), and 55% were Caucasian. At enrolment, mean gestational age was 11.9±2.5 weeks and median RBCFol was 1281 nmol/L (range:580–2849). The pregnancy was planned in 68.3% of women, 4.3% of whom did not consume any source of folic acid during the periconceptional period (in the 3 months preceding and following conception). Median RBCFol was higher for women who planned their pregnancy (1293 vs.1227 nmol/L, $P = 0.004$). RBCFol was < 900 nmol/L (range:580–899) in 35 women (10.5%). These women who did not reach the recommended level were less likely to be Caucasian (31.4% vs.57.1%, $P = 0.004$), to have planned their pregnancy (45.7% vs.70.8%, $P = 0.004$) and to have consumed prenatal vitamins (77.1% vs.96.2%, $P = 0.002$).

Conclusions: Low periconceptional vitamin supplementation and RBCFol have been reported in Canada. However, in our multiethnic urban population only 10% of women had suboptimal levels of RBCFol in early pregnancy.

■ O-OBS-MFM-MD-004

LABOUR INDUCTION VERSUS ELECTIVE CESAREAN SECTION IN NULLIPAROUS WOMEN WITH UNFAVOURABLE CERVIX AT TERM: MATERNAL AND PERINATAL CONSEQUENCES

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Objectives: To compare maternal and perinatal outcomes associated with induction of labour with the consequences of elective cesarean section (CS) in primigravid women with unfavorable cervix at term.

Study Methods: A retrospective cohort of nulliparous women with unfavourable cervix undergoing elective labour induction or elective CS was derived from the Nova Scotia Atlee Perinatal Database. Major maternal and severe perinatal complications in the two groups were compared, with severe neonatal morbidity defined as birth trauma or birth depression or 5 minute Apgar < 4 or seizures or abnormal level of consciousness or endotracheal intubation > 24h. SAS 9.2 statistical software was used for data analysis.

Results: Major maternal morbidity and mortality rates were similar following labour induction (n = 2611) and elective CS (n = 1694): 358 (13.7%) vs 229 (13.5%), respectively ($P = 0.86$). Perinatal mortality or severe neonatal morbidity rates were increased in the labour induction group (3.1% vs 1.4%, $P = 0.0003$). Perinatal complications contributing to this increased risk included perinatal mortality (0.6% vs 0.1%, $P = 0.02$), birth trauma (0.5% vs 0.1%, $P = 0.04$) and endotracheal intubation (1.3% vs 0.4%, $P = 0.004$). NICU stay > 48h was also increased following labour induction (6.8% vs 4.7%, $P = 0.004$).

Conclusions: The apparent increased risk of perinatal mortality and severe neonatal morbidity associated with labour induction relative to elective CS in term nulliparous women with unfavourable cervix warrants further study in a well-designed randomized controlled trial.

■ O-OBS-PhD-001 .... BEST OF FOUR

IMPACT OF FETAL FIBRONECTIN TEST IMPLEMENTATION ON HEALTH SERVICES UTILIZATION IN THE PROVINCE OF ONTARIO: AN INTERRUPTED TIME SERIES ANALYSIS

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Objectives: To estimate the impact of fetal fibronectin (fFN) test implementation on maternity health services utilization for threatened preterm birth (TPB) in Ontario.

Study Methods: All antepartum and delivered obstetrical admissions between April 2002 and March 2010 were extracted from a province-wide hospital administrative database. 'Case' admissions were antepartum, undelivered admissions for TPB between 24 and 34 weeks' gestation. We used interrupted time series (ITS) analyses to detect a change in the monthly rate of TPB case admissions following fFN implementation. The absolute reduction in case admission rates post fFN implementation was estimated for each hospital site and at a province-level after aligning the fFN implementation date for each institution.

Results: Of the 47 hospitals with sufficient observation time points, 26 had a statistically significant absolute reduction in the rate of TPB case admissions at 12 months post-fFN implementation and 22 (out of 36 remaining) sustained a statistically significant reduction by 24 months. At the provincial level, observed rates of TPB case admissions post-fFN implementation were lower than expected rates, corresponding to a modest but statistically significant absolute reduction of approximately 1 TPB case admission per 100 preterm deliveries (12 months: 0.96, 95% confidence interval [CI]: 0.90–1.02; 24 months: 1.06, 95% CI: 0.94–1.18).

Conclusions: Using a robust analytical methodology designed to detect a change greater than underlying secular trends, we observed a small but statistically significant absolute decrease in antepartum hospital admissions for TPB following implementation of fFN testing in Ontario.

■ O-OBS-PhD-002 .... BEST OF FOUR

TIMING OF ELECTIVE REPEAT CESAREAN DELIVERY AT TERM IN BRITISH COLUMBIA

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Objectives: To establish risk factors for early term (37+0 to 38+6 weeks) elective repeat cesarean delivery in a population-based cohort and to quantify the risks of maternal and neonatal complications associated with planned repeat cesareans performed after the onset of labour.

Study Methods: Medical records of 7687 low-risk repeat cesarean deliveries in British Columbia (BC), Canada (2008–2011) were obtained from the BC Perinatal Database Registry. Differences in early term delivery rates according to maternal, care provider, and institutional factors were established using generalized linear models. Logistic regression was used to compare the risks of adverse pregnancy outcomes among women presenting with spontaneous labour prior to their repeat cesarean with risks among women whose repeat cesarean was performed under elective timing.

Results: 55% of elective repeat cesareans were performed at early term ages. Early term delivery was significantly more common among women with multiple previous cesareans (adjusted rate 8.2 percentage points higher [95%CI 5.5 to 10.9] for 2 previous cesareans), obese women (6.7 percentage points higher [95%CI 1.6 to 11.7]), and hospitals with lower obstetrical volume.

Spontaneous labour prior to repeat cesarean occurred in 15% of women, and was associated with increased risks of serious maternal and neonatal complications (odds ratios = 2.22 [95%CI 1.14 to 4.33], 2.61 [95%CI 1.42 to 4.82], respectively).

Conclusions: Quality-improvement programs are needed to reduce the number of elective repeat cesarean deliveries performed before 39 weeks. However, recognition of the potential risks associated with spontaneous labour prior to the scheduled surgery date is important when implementing policies aiming to shift deliveries to later term ages.

ORAL GYN

■ O-GYN-CANPAGO-MD-001 .... BEST OF FOUR

TUBO-OVARIAN ABSCESS IN VIRGINAL ADOLESCENT FEMALES: A CASE REPORT AND REVIEW OF THE LITERATURE

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Objectives: A tuboovarian abscess (TOA) is a serious complication of pelvic inflammatory disease, most often polymicrobial and present in sexually active women. TOAs in virginal adolescent females are extremely rare but have serious lifelong consequences. We present a case of a virginal adolescent female with TOAs from Escherichia Coli and offer a detailed review of the literature.

Study Methods: Case report of a 13 y.o. female who presented to the Emergency Room of a tertiary care pediatric hospital.

Results: The patient presented with a 24 hour history of diffuse abdominal pain, nausea and vomiting. Her abdomen was acute and imaging suggested bowel compromise with potential perforation. An exploratory laparotomy was preformed and revealed bilateral TOAs which were drained intra-operatively. Escherichia Coli grew. She was treated post-operatively with intravenous clindamycin and gentamycin and discharged home on oral amoxicillin/clavulanate. Serial ultrasounds were performed until complete resolution.

Conclusions: Review of the literature identified eight cases of TOAs in virginal adolescents. As in our case, four cases grew Eschierichia Coli. Others grew Abiotrophia and Granulicatella, Coagulase Negative Staphylococcus and Streptococcus, and Alpha-Hemolytic Streptococci. Infections were attributed to spread from genitorurinary or gastrointestinal sources. Four cases were treated conservatively by laparoscopic drainage or exploration; three had unilateral oophorectomies; and one had a unilateral salpingoophrectomy and hysterectomy. All were treated with combination antibiotherapy. In conclusion, given the severity of outcomes following TOAs, this pathology should be considered in the differential diagnosis of virginal adolescents who present with fever and abdominal pain, and a prompt gynecological consult should be initiated.

■ O-GYN-IWH-MD-001................................. BEST OF FOUR

VAGINAL HEALTH: INSIGHTS, VIEWS AND ATTITUDES FROM CANADIAN WOMEN

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Objectives: To assess postmenopausal Canadian women's knowledge on vaginal atrophy and experience on treatment options.

Study Methods: The VIVA (Vaginal Health: Insights, Views and Attitudes) survey was a quantitative internet-based survey involving a structured on-line questionnaire in 500 respondents (55–65 years) from Great Britain, United States, Canada, Sweden, Denmark, Finland and Norway with a total of 3520 participants. Data were summarized descriptively.

Results: 50% of Canadian women had experienced vaginal discomfort: vaginal dryness (88%), pain during intercourse (49%), involuntary urination (37%), vaginal itching (29%), vaginal soreness (19%), vaginal burning (18%), and pain when touching the vagina (13%). 56% reported having experienced the symptoms for 3 year or longer. 66% of respondents felt that vaginal discomfort had negative consequences on their sex life and on relationships (43%), 33% reported that it made them feel old and that affected their self-esteem, quality of life (27%) and social life (12%). 60% of the participants said that they would discuss vaginal atrophy with their doctor but 37% would not raise the subject or hesitate to do so. Almost two-thirds of the survey population (59%) claimed that their doctor had not raised the topic of postmenopausal vaginal health. Women were more likely to use OTC products for symptoms relief than treating the underlying cause of the condition.

Conclusions: Canadian women also have a low understanding of vaginal atrophy. Medical practitioners should proactively raise the topic of vaginal health, help patients to understand the chronicity of the condition, and discuss most appropriate treatment options

■ O-GYN-MD-001 ....

CAN SURGICAL PRECEPTORSHIP CHANGE MINIMALLY INVASIVE HYSTERECTOMY RATES?

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Objectives: A 3 year follow-up of a surgical preceptorship program aimed at promoting minimally invasive hysterectomy (MIH).

Study Methods: A retrospective chart review of all hysterectomies performed at a single institution between July – December 2010. This was compared to a similar data collection performed in 2007 immediately following a 6 month surgical preceptorship program. The program consisted of assessing all patients for a MIH and providing preceptors with advanced Minimally Invasive Surgery (MIS) training to lead in the operating room.

Results: 170 hysterectomies were performed in the 6 month period. Staff with MIS fellowship training has increased from 31.2% to 46.2%, with proportion of hysterectomies performed increasing from 60.1% to 66%. Overall, from pre-preceptorship, preceptorship, 6 months review and now 3 year review, the MIH rate has increased from 35.6%, 55.6%, 58.3% and now 65.3% respectively. Specifically for non-MIS staff the MIH rate has increased from 13.8% (9/65) in 2007 to 37.9% (22/58) in 2010. Excluding cases were preceptorship occurred the proportion of MIH was 15.5%. For MIS staff the MIH rate declined from 87.8% to 79.5% in the same period. Mean length of hospital stay overall decreased from 3.3 days to 2.3 days.

Conclusions: Preceptorship has resulted in an increase in MIH by non-MIS trained staff. However there was continuing reliance on preceptors by preceptee's. Interestingly the MIS staff performance declined, perhaps reflecting an intention to treat bias during the initial monitoring period. A structured approach to evaluating surgical techniques may help promote independent MIH practice.

■ O-GYN-MD-002 .... BEST OF FOUR

UTERINE ARTERY EMBOLIZATION FOR SYMPTOMATIC UTERINE MYOMAS USING GELFOAM PLEDGETS ALONE VERSUS EMBOSPHERES PLUS GELFOAM PLEDGETS: A RANDOMIZED COMPARISON

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Objectives: Uterine artery embolization (UAE) with Embospheres ±gelfoam (E±G) has been very effective in treating uterine fibroids. However, Embospheres cause unintended embolization of ovaries, endomyometrium, and other organs/tissues, resulting in unwelcome sequellae. We hypothesized that UAE using G-only is equally effective to E+G and may minimize above sequellae.To evaluate the efficacy and clinical outcomes following UAE using G-alone (n = 31) vs. E+G (n = 28).

Study Methods: After IRB approval and informed consent, 51 reproductive aged women were randomized into trans-catheter UAE under fluoroscopy, local anesthesia and overnight patient-controlled-analgesia, using G-pledgets-alone or E (500-700mic)+G-pledgets. At baseline, groups were similar in age, parity, BMI, uterine and dominant fibroid volume, and menstrual blood loss determined by the Aberdeen menorrhagia severity scale (AMSS/Ruta).

Results: At baseline, 3, 6, 12 months, means(SD) were: uterine volume; 801cm3 (538) vs.565 (370), 535 (226) vs. 426 (322), 485 (401) vs. 401 (249), 467 (438) vs. 343 (227), fibroid volume; 268 (291) vs. 227 (213), 190 (290) vs. 137 (168), 132 (168) vs. 93 (101), 118 (169) vs. 81 (99), Ruta score; 19.2 (6.8) vs.21.6 (6.1), 11.5 (7.2) vs. 8.1 (5.2), 13.2 (8.3) vs. 6.4 (4.0, $P < 0.001$), 10.5 (7.9) vs. 5.8 (3.6, $P < 0.01$) for G-alone and E+G, respectively. At 12 months, 71% vs. 79% were satisfied or very satisfied, respectively.

Conclusions: UAE with G-alone was equally effective to E+G in reducing uterine volume by 41%, dominant fibroid volume by 56%, and normalizing menstrual blood loss.

O-GYN-MD-004

A PROSPECTIVE DETERMINATION OF THE IMPACT OF OR TIME ON ATTRIBUTABLE COMPLICATIONS IN A COHORT OF WOMEN UNDERGOING LAPAROSCOPIC HYSTERECTOMY

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Objectives: To determine, in women undergoing laparoscopic hysterectomy, whether the longer OR times associated with this route of access affects attributable postoperative outcomes.

Study Methods: All women undergoing laparoscopic hysterectomy in a community hospital during the 13 month period ending Dec 31, 2011 had concurrent prospective data regarding the surgery's complexity (Surgical Complexity Index, [SCI]) entered into the OR database by the surgeon. Postoperative outcomes that could be reasonably attributed to OR time (cardio-respiratory, neuro-muscular) as well as other predictor variables were derived from the patients' chart. Multiple regression techniques were used to analyze the data.

Results: In total 219 women underwent laparoscopic hysterectomy during the study period. Mean OR time was 182 min. (SD = 54 min). The overall attributable complication rate was 1.5%. After adjustment for surgical complexity (SCI), OR time was a statistically significant predictor of the probability of attributable postoperative complications ($P = 0.034$). For the 3 patients with attributable complications, OR time was 269 min. versus 182 min for those without. The prospectively derived SCI score was a strong predictor of OR time ($P < 0.001$). If the resident performed most of the procedure the OR time was extended by 24.5 minutes. ($P < 0.001$)

Conclusions: In women undergoing hysterectomy, the longer OR times associated with the laparoscopic route of access leads to very low attributable complication rates. However, there is a definite increase in these complications with very long procedures. Surgical complexity and resident participation both predict OR times.

O-GYN-MD-005

LAPAROSCOPIC ULTRASOUND DURING GLOBAL RADIOFREQUENCY FIBROID ABLATION DEMONSTRATES ASSOCIATION BETWEEN INTRAMURAL MYOMAS AND MODERATE-TO-SEVERE MENORRHAGIA

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Objectives: To ascertain in patients with confirmed moderate and severe menorrhagia the distribution of leiomyoma types as determined by laparoscopic ultrasound during global radiofrequency fibroid ablation (GFA).

Study Methods: This prospective, multicenter, longitudinal, single-arm, paired-comparison, interventional study took place at 11 urban clinical centers in the United States and Latin America with 135 women serving as their own controls. Subjects had a baseline menstrual blood loss of 160–500 mL measured by alkaline hematin and 1 to 6 myomas determined by preoperative MRI and transvaginal ultrasound. Exploratory and descriptive statistics were used.

Results: Laparoscopic ultrasound, as an integral part of GFA, determined the types of 796 of 818 myomas imaged overall. There were 210 (210/796, 26.4%) subserosal and 110 (13.8%) submucosal myomas. Ninety (11.3%) myomas were intramural abutting the endometrium (IMAEs) and 386 (48.5%) myomas were intramural but did not abut the endometrium. One hundred three (103/135, 76.3%) subjects had more than one type of myoma. One hundred three (76.3%) subjects had intramural myomas. Sixty-one (45.2%) subjects had one or more IMAEs and 24 (39.3%) of these subjects had submucosal myomas. Sixty-six (48.9%) subjects had one or more submucosal myomas, and 24 of these subjects (36.4%) had IMAEs. Twenty-five subjects (18.5%) had intramural myomas but no IMAEs or submucosal myomas.

Conclusions: These results indicate intramural myomas are a significant cause of menorrhagia. Consequently, management of patients with menorrhagia should include treatment of intramural myomas.

O-GYN-MD-006

HYSTERECTOMY AT A TERTIARY LEVEL SURGICAL REFERRAL SERVICE: INDICATIONS, COMPLICATIONS AND OUTCOMES

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Objectives: Centers of excellence for surgical care have gained wide acceptance internationally for complex surgical problems to improve patient safety. This project aims to evaluate the indications, complications and outcomes of hysterectomy in a Canadian Tertiary Level Gynaecologic Surgical Referral Service.

Study Methods: A retrospective study was conducted in a Canadian tertiary care university hospital, which began offering a gynaecologic surgical referral service in 2007. Medical records of women undergoing hysterectomy through this referral service between September 2007 and April 2011 were reviewed (n = 225). Cases were excluded if they were associated with malignancy, pregnancy or abortion.

Results: The majority of cases were tertiary referrals (80%) from other specialists. The mean patient age was 45 and average BMI was 29 (40% obese). The most common approach to hysterectomy was laparoscopic (84%). The rate of minimally invasive (MIS) hysterectomy was 94%. Data was analyzed for the laparoscopic (LH) cases specifically. The mean uterine weight was

264 grams. The mean length of stay was 1.2 days. Indications for LH were fibroids, endometriosis and adnexal mass (51%, 38% and 28%). The rate of intraoperative complications was 3.7% (n = 7) and postoperative complications were 2.1% (n = 4). The mean estimated blood loss was 179 mL. The laparotomy conversion rate was 1.6%.

Conclusions: A tertiary level service managing complex gynaecologic problems may manage most hysterectomy cases through a minimally invasive surgical approach safely. Consideration should be given to developing regional referral services for complex hysterectomy cases.

■ O-GYN-MD-007

WOMEN'S HEALTH KNOWLEDGE TRANSLATION: A MODEL FOR COMMUNICATING NEW GUIDELINES TO THE PUBLIC

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Objectives: To create an online tool that helps patients navigate the emerging evidence on oral contraceptives and the risk of venous thromboembolism (VTE), including the 2010 SOGC Clinical Practice Guidelines on VTE.

Study Methods: An online interactive website helping patients understand the health risks and benefits associated with oral contraceptives was developed and peer reviewed by an expert panel of Canadian physicians. The content of this presentation was based on a CME-approved module for Family Physicians on contraception and the risk of VTE. This website featured a “webinar”, where a split screen displayed a video presentation recited by Dr. Vivien Brown accompanied a PowerPoint presentation reviewing the risks and benefits associated with oral contraceptives and the current literature. Special focus was placed on the SOGC 2010 Clinical Practice Guidelines on VTE. Links to the website housing the webinar were then posted on various women's health affiliated sites such as the Federation of Medical Women of Canada.

Results: Visit www.pilltalkwithyourdoc.com to view the webinar tool. The creation of a means of quantitatively evaluating the effectiveness of this webinar is in progress. Qualitative feedback from users using the ‘comments’ form and from physicians viewing the site has been overwhelmingly positive.

Conclusions: An online webinar, combining simultaneous video presentation visuals and PowerPoint components is an effective means of communicating new guidelines to the public. This model of knowledge translation has the potential be successfully applied to many fields of medicine, including and beyond women's health.

■ O-GYN-MD-008

ECTOPIC PREGNANCY IN NORTH OF MANITOBA, ARE WE DIFFERENT?

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Objectives: To have an insight into incidence, management approaches and outcomes of ectopic pregnancy in the Burntwood Region, Manitoba's northern and largest geographic region
(52% the size of Manitoba) compared to the rest of the province.

Study Methods: All patients (77) diagnosed with ectopic pregnancy in Thompson General Hospital (TGH) during a 6 year period (2006–2011) were identified and reviewed retrospectively.

Results: Incidence: 16.4 per 1000 pregnancies. Presentation and Risk Factors: Ages ranged from 18–44 with mean age of 28.5; Parity ranged from 0–8, the mean parity was 1.78; 61 patients (79%) presented with lower abdominal pain with or without vaginal bleeding; 12 patients (15.5%) presented with only vaginal bleeding; 4 patients (5%) were asymptomatic and diagnosed incidentally on routine early ultrasound; 10 patients had history of previous ectopic pregnancy (13%); 3 patients had Intra Uterine Contraceptive Device (IUCD) in situ (4%); 4 patients had tubal ligation (5%). Management-Surgical: 48 patients were treated surgically (62%); 28 were treated by Laparotomy (58%) and 20 by Laparoscopy (42%). Management-Medical: 26 patients were treated medically by Methotrexate (33.7%), 3 failed the medical treatment (11.5%). Management-Conservative: 3 patients were treated conservatively (4%).

Conclusions: Despite over a 4 fold higher incidence of Chlamydia infections in Burntwood Region and almost 8 fold higher incidence of Gonorrhea infection compared to Manitoba, our ectopic pregnancy incidence was comparable to the rest of the province. Our management approaches and outcomes were also found to be comparable even to more urban centres in the province.

■ O-GYN-ONCOL-MD-001 BEST OF FOUR

EVALUATION OF A DIAGNOSTIC COLPOSCOPY SERVICE FOR UNDERSERVED WOMEN WITH PAP SMEAR ABNORMALITIES

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Objectives: Colposcopy follow-up of abnormal Pap smears is an important part of cervical cancer screening, however many women are lost to follow-up. In 2009 a large urban sexual health clinic, established an on-site diagnostic colposcopy service using a family physician colposcopist and pre-visit nurse counseling, telephone reminders, and ongoing support. We examine whether this model of care resulted in improved adherence to the first colposcopy visit.

Study Methods: Retrospective chart review of patients referred for colposcopy before and after inception of the service (pre/post groups). Groups were compared for default to first colposcopy visit (non-attendance at 6 months and 1 day from referral date). Univariate analysis of patient and clinical factors associated with default was performed followed by multivariable logistic regression for non-adherence, adjusting for pre/post group and other factors found to be significant in univariate analysis.

Results: There were 302 women in the Pre and 383 women in the Post groups. Default rates were 13% and 4%, respectively ($P < 0.0001$). In adjusted analysis, only pre/post group status and screening associated with abortion were significant. Women in the Post group were one third as likely to default (OR 0.337 [0.182–0.624], $P = 0.0005$) and those screened at an abortion visit were almost 3 times more likely to default than women having Paps at a screening-specific visit (OR 2.772 [1.284–5.987], $P = 0.0036$).

Conclusions: An onsite colposcopy service incorporating pre-procedure nurse counseling and support may be an effective model for improving adherence to colposcopy. Further research should explore which components of this model are most important.

■ O-GYN-PS-MD-001

A REGIONAL MULTIDISCIPLINARY PROGRAM FOR THE MANAGEMENT OF ECTOPIC AND MOLAR PREGNANCIES: PROGRAM DESIGN AND OUTCOMES

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Objectives: To describe the design and outcomes of a multidisciplinary regional program for ectopic and molar pregnancies over a five-year period.

Study Methods: Three hundred fifty-one charts were retrospectively reviewed from November 2005 to June 2011 from a multidisciplinary regional program for ectopic and molar pregnancies. The program is a unique collaboration between nursing, residents, and staff in obstetrics and gynecology in an academic tertiary care center. Descriptive statistics and frequencies were tabulated.

Results: Of the 351 patients followed in the program, 301 (86%) were diagnosed with ectopic pregnancy, 31 (9%) were diagnosed with molar pregnancy, and 18 (5%) were diagnosed with early intrauterine pregnancy. Among the ectopic pregnancies, 53% were initially managed medically, 32% were managed surgically, and 15% were managed conservatively. Failure of initial management in the ectopic pregnancy group was 16.6%; eighty percent of these were failures of methotrexate. Half of the failed initial interventions were diagnosed during serial follow up with the program. Serial follow up of molar pregnancy identified 5 cases which required referral to a gynecologic oncologist for non resolving molar pregnancies; two of these patients went on to require chemotherapy for gestational trophoblastic neoplasia. Overall, loss to follow up in the program was 13.3%.

Conclusions: A dedicated, multidisciplinary follow up program for ectopic and molar pregnancies assists with delivery of appropriate and consistent care. This ensures compliance, prevents adverse outcomes, and enhances the interaction between health care professionals and patients who have experienced ectopic and molar pregnancy.

■ O-GYN-REI-MD-001 .... BEST OF FOUR

EXPERIENCE WITH AN INCEPTION COHORT OF BLASTOCYST ELECTIVE SINGLE EMBRYO TRANSFER (ESET) WITHOUT PROVINCIAL HEALTH INSURANCE SUPPORT

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Objectives: 1. To evaluate patient acceptance of eSET introduction without medicare support. 2. From a good prognosis study population, compare eSET with elective double embryo transfer (eDET) regarding: a) Success: Presence of at least one embryo with cardiac motion seen on six week post transfer ultrasound, the primary outcome b) Twins and high order multiples(HOMs): secondary outcomes.

Study Methods: All patients who had at least three blastocysts suitable for transfer or freezing are included. eSET plus, if unsuccessful, subsequent frozen embryo transfers (FETs) from that stimulation cycle, compared with eDET are presented. Analysis used Fisher's Exact test (2-sided).

Results: In 2009, 2010 and 2011 there were nine, 15 and 42 eSET's respectively. During this period 188 eDETs were performed. For women aged 35 years or less at oocyte retrieval, the primary outcome proportions are 30/45 (66.7%) in the eSET and FET group versus 80/111 (72.4%) with eDET ($P = 0.56$). For women aged 36 or 37, 6/13 (53.8%) versus 28/38 (74.7%) attained success respectively ($P = 0.30$). For women aged 38 and older, 3/8 (37.5%) versus 19/39 (48.7%) attained success ($P = 0.71$). To date there have been no multiples with eSET. Multiples following eDET are 61, 68, and 16% in each age group respectively. There have been four HOMs with eDET, resulting from monochorionic gestations.

Conclusions: Blastocyst eSET has been highly successful in women 35 or younger, with ongoing pregnancies in two-thirds. Multiples occur in excess of half of pregnancies with eDET at 37 or younger, substantially more than eSET.

ORAL OBS-JM

■ O-OBS-JM-005 .... BEST OF FOUR

THE IMPACT OF IADPSG CRITERIA IN A CANADIAN POPULATION

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Objectives: In 2010, the International Association of Diabetes and Pregnancy Study Groups (IADPSG) proposed new stricter criteria for the diagnosis of gestational diabetes (GD). Our objectives were to estimate the increased incidence of GD and to study maternal and neonatal outcomes in women considered diabetic according to these new criteria.

Study Methods: This retrospective study was performed at Sainte-Justine Hospital (Montréal) from November 2008 through October 2010 in women tested for GD and delivered in our institution (n = 5601). Maternal and neonatal outcomes of women diagnosed with GD according to IADPSG criteria but not according to CDA criteria (group 1; n = 186) were compared to those of women without GD according to both IADPSG and CDA criteria (group 2; n = 372). Student's t-test, chi-squared, Fisher' exact tests and logistic regressions were used to analyze data.

Results: The rate of GD according to IADPSG criteria was 27 (51%) (95% CI 25.92–29.11): 1.9 times the incidence of DG using CDA criteria. Obesity and previous GD were more frequent in women with GD according to IADPSG criteria. No statistically significant difference in maternal or neonatal outcomes (macrosomia, pre-eclampsia, prematurity, obstetrical and neonatal complications) were observed. However, repeat caesarean section was more frequent in group 1.

Conclusions: In our population, women with GD according to IADPSG criteria have similar pregnancy outcomes to normoglycemic women. Moreover, application of IADPSG criteria would nearly double of the number of women with GD. More randomized trials are therefore necessary before implementation of these criteria as there is no demonstrable difference in outcome and thus no proven benefit.

■ O-OBS-JM-007 ....

INDICATION FOR BIRTH IN THE LATE PRETERM PERIOD: A COMPARISON BETWEEN A POPULATION-BASED REGISTRY AND THE PATIENT RECORD.

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Objectives: The Ontario Niday perinatal database, a population-based registry, collects information on maternal, newborn and perinatal outcomes, and is a potential research tool. Our objective was to review the indications for late preterm births (LPTB) in Niday in comparison to the patient record.

Study Methods: We conducted a retrospective cross-sectional study from 2010–2011 at McMaster University Medical Centre of LPTB in 215 women. Indications for LPTB were abstracted from physician notes in the patient record and compared to Niday data. An overall percent agreement was calculated for all indications for LPTB. In addition, sensitivity (SENS), specificity (SPEC), positive (PPV) and negative predictive values (NPV), and kappa (k) were calculated to compare the accuracy and predictability of Niday data in comparison to the patient record for the three most common indications for LPTB, which had been identified a priori from physician notes.

Results: Overall, there was poor agreement between the indications for LPTB between Niday and the patient record (39%). The three

most common indications for LPTB were spontaneous labour, preterm prelabour rupture of membranes, and severe pre-eclampsia with a corresponding SENS of 80%, 4%, and 10%, SPEC 91%, 100%, and 99%, PPV 81%, 100%, and 50%, NPV 90%, 78%, and 91%, k = 0.71, 0.06, and 0.14, respectively.

Conclusions: Indications for LPTB in Niday at a tertiary centre are often missing or do not agree with physician charting. Researchers should be cautious using administrative databases such as Niday for research prior to auditing the quality of the data.

■ O-OBS-JM-008

UTERINE RUPTURE AND ADVERSE OBSTETRICAL OUTCOMES IN WOMEN WITH PREVIOUS CESAREAN FOR DYSTOCIA IN SECOND STAGE OF LABOR

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Objectives: To evaluate the obstetrical outcomes in women undergoing a trial of labor (TOL) after a previous cesarean for dystocia in second stage of labor.

Study Methods: A cohort study of women with one previous low-transverse cesarean undergoing a first TOL was performed. Women with a previous cesarean for dystocia in first stage and women with previous dystocia in second stage were compared to those with previous cesarean for non-recurrent reasons (controls). Outcomes included: rates of failed TOL, operative delivery, shoulder dystocia, third/fourth degree perineal laceration and uterine rupture. Multivariable regressions analyses were performed to adjust for confounding factors.

Results: Out of 1655 women, those with previous dystocia in second stage of labor (n = 204) had greater risks than controls (n = 880) to undergo operative delivery (OR: 1.5; 1.1–2.2) and shoulder dystocia (OR: 1.5; 1.1–2.2) but not failed TOL (OR: 1.3;0.9–1.8) and uterine rupture (OR: 1.0; 0.3–3.1). However, we found that these women were at greater risk for uterine rupture in the second stage of labor (OR: 4.9; 1.1–22.8), and especially in cases with fetal macrosomia (OR: 29.6; 4.4–201.7). They had a median second stage of labor duration of 2.5 hours (interquartile: 1.5–3.2 hours) before uterine rupture.

Conclusions: Previous cesarean for dystocia in the second stage of labor is associated with greater risk of second stage adverse obstetrical outcomes at next delivery, including uterine rupture, especially with fetal macrosomia. TOL in case of suspected fetal macrosomia and/or prolonged second stage should be avoided for these women.

■ O-OBS-JM-011 BEST OF FOUR

GROUP PRENATAL CARE VERSUS INDIVIDUAL PRENATAL CARE: A SYSTEMATIC REVIEW AND META-ANALYSES

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Objectives: To compare the effect of group prenatal care (GPC) and individual prenatal care (IPC) on perinatal health outcomes including preterm birth (PTB < 37 weeks) and low birthweight (< 2500 g).

Study Methods: Two reviewers independently performed each step of this systematic review and meta-analyses of randomized studies and, separately observational studies. Comprehensive literature searches in Medline, EMBASE, CINAHL and references were performed, outcomes measures defined, data collected, study quality assessed (modified Newcastle-Ottawa Scale and Cochrane bias assessment tool) and data analysis carried out (Review Manager, version 5.0).

Results: Eight studies were included involving 3242 mainly high risk women (young, minority ethnic group, low SES). They were mostly low quality studies (three randomized controlled trials and five cohort studies). In the only two high quality studies found (both RCTs), women randomized to GPC had lower rates of PTB (RR 0.71 95% CI 0.52 to 0.96), no difference in LBW (RR 0.91 [0.65 to 1.27]) or IUGR (RR 0.85 [0.61 to 1.19]), fewer Caesarean deliveries (RR 0.80, 95% CI 0.67 to 0.93) and higher rates of breastfeeding (RR 1.08 [1.02 to 1.14]). They were also more knowledgeable and more satisfied with care.

Conclusions: This systematic review highlights the scarcity of good quality studies on group prenatal care (GPC). However, there is evidence from two high quality RCTs that, in high risk populations, GPC resulted in fewer PTB and Caesarean sections and an increase in rates of breastfeeding, knowledge and satisfaction with care. Further good quality studies are required to determine the generalizability of these results.

■ O-OBS-JM-012 BEST OF FOUR

TRENDS, PREDICTORS AND MORTALITY AMONG WOMEN WITH VENOUS THROMBOEMBOLISM IN PREGNANCY: A POPULATION-BASED STUDY OF 8 MILLION BIRTHS

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Objectives: Venous thromboembolism (VTE) remains a major cause of maternal morbidity and mortality. The aim of this study was to better understand risk factors for VTE disease and mortality in pregnancy, and trends in incidence and mortality.

Study Methods: We conducted a population-based cohort study on 8 million birth records from the Healthcare Cost and Utilization Project-Nationwide Inpatient Sample from 1999 to 2008 to estimate incidence, mortality and trends of VTE in pregnancy over the last decade. Unconditional logistic regression analysis was used to obtain odds ratio (OR) and 95% confidence intervals (CIs).

Results: Our cohort consisted of 8,826,137 births, 14741 cases of VTE and 61 VTE-associated maternal deaths. Risk factors for VTE included thrombophilia (adjusted OR: 44.50, 95% CI 41.35–47.89), obesity (adjusted OR: 2.10, 95% CI 1.91–2.32) and transfusion (adjusted OR: 2.42, 95% CI 2.21–2.66). Other risk factors include age above 25, African American race, smoking, cardiovascular disease, caesarean section and postpartum haemorrhage. Risk factors for VTE-related mortality included African-American race (adjusted OR: 2.32, 95% CI 1.07–5.02), cardiovascular disease (adjusted OR: 17.65, 95% CI 9.25–33.66), hypertension (adjusted OR: 3.70, CI 1.57–8.73), caesarean section (adjusted OR: 2.95, 95% CI 1.68–5.17) and transfusion (adjusted OR: 13.36, 95% CI 6.23–28.67). A 2-fold increase in VTE incidence was noted in 2008 compared to 1999 (adjusted OR 1.948, 95% CI 1.796–2.112).

Conclusions: Our study identifies many risk factors for VTE and specifically, VTE related mortality and also demonstrates a statistically significant rising incidence of VTE, despite increasing awareness and use of VTE prophylaxis.

■ O-OBS-JM-015

UTERINE SEPTUM REPAIR INCREASES LIVE BIRTH RATE COMPARED TO WOMEN WITH OTHERWISE UNEXPLAINED INFERTILITY

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Objectives: To determine if women who undergo a uterine septum repair have higher live birth rates than women with a normal hysteroscopy and unexplained infertility.

Study Methods: Using surgical records from the university based fertility clinic, a cohort of all women at our tertiary care centre undergoing metroplasty from October 2003 to June 2010 were identified. The study patients were matched with the next four women from the clinic undergoing a diagnostic hysteroscopy. The patients were followed from surgery for at least one year to determine if they had a pregnancy and the outcome of that pregnancy.

Results: 48 women underwent uterine septum repair (SR) during the specified timeline and were matched with 189 women who had a diagnostic hysteroscopy (DH). The groups were similar in age, BMI, years trying to conceive and surgeon. Postoperatively 72.9% women in the SR group became pregnant vs. 43.4% in the DH group ($P < 0.001$). Live birth rates were also significantly increased (52.1% (SR) vs. 33.3% (DH), $P = 0.016$). The SR group had a higher proportion of patients with risk factors for preterm delivery (32.0% vs. 11.1%, $P = 0.019$) but non-significant differences in birthweights (3345g vs. 3401g, $P = 0.167$), gestational age (267.9 days vs. 274.1 days, $P = 0.128$) or admissions to NICU (13.0% vs 6.5%, $P = 0.329$). There was no significant difference in preterm births (16.7% vs. 7.9%, $P = 0.235$).

Conclusions: Uterine septum repair resulted in higher pregnancy rates and live births compared to women undergoing a diagnostic hysteroscopy for infertility. Secondary analyses revealed a higher proportion of women with risk factors for preterm delivery. Patients can be counseled that uterine septum repair results in a greater number of live births compared to women with unexplained infertility.

■ O-OBS-JM-019 .... BEST OF FOUR

COMPARATIVE STUDY OF TWO TRANSABDOMINAL APPROACHES FOR UTERINE ARTERY DOPPLER VELOCIMETRY AT 11–13 WEEKS

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Objectives: Compare the feasibility of two transabdominal approaches of first-trimester uterine artery Doppler and evaluate the correlation with pulsatility index (PI) at second-trimester.

Study Methods: Prospective study of 81 women at Centre Hospitalier Universitaire de Québec, using transabdominal ultrasound and color Doppler to measure the uterine artery PI on the ascending branch of uterine artery at the level of the internal cervical os (site A) and at the level of the apparent crossover with the external iliac artery (site B) at 11–13 weeks and at site B only at 21–22 weeks. Measured left and right PI were converted to multiple of median (MoM) for gestational age and the inter-correlation were calculated using non-parametric analysis (Spearman rank correlation).

Results: Satisfactory measurements were obtained at 11–13 weeks from both uterine arteries in all 81 women using site A and in 50 (62%, 95% confidence limits: 50–72%) using site B ($P < 0.01$) and at 21–22 weeks from all cases. In the 50 cases with measurements from both sites, correlation of PI MoMs between sites A and B at 11–13 weeks was only moderate ($P = 0.61$). The correlation between PI MoMs in the first and second-trimester was higher for site A than site B ($P = 0.73$ vs. $P = 0.47$, $P < 0.01$).

Conclusions: Measurement of uterine artery PI at 11–13 weeks is more achievable at the level of the internal cervical os rather than at the level of the apparent crossover with external iliac vessels and it correlates better with second-trimester PI.

ORAL GYN-JM

■ O-GYN-JM-003 .... BEST OF FOUR

THE ROLE OF APPENDECTOMY IN GYNAECOLOGIC SURGERY: A RETROSPECTIVE CASE SERIES

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Objectives: To review the indications, pathology and complications of appendectomy performed during gynaecologic surgery in a tertiary academic health sciences centre.

Study Methods: A retrospective review of appendectomy cases performed from September 2007–December 2011 in a tertiary level gynaecologic surgical practice was conducted. Cases were identified through billing records. Cases were audited using a standardized intake sheet using surgical reports, history on file and pathologic findings.

Results: In 71 appendectomies performed in cases of endometriosis, pelvic pain, pelvic mass or co-related pathology, 60.5% had abnormal histopathology. Of the patients (n = 44) with a primary diagnosis of endometriosis, 64% (n = 28) had appendiceal pathology. In the setting of chronic pelvic pain, 50% of patients within our sample had pathology within their appendix. Of those appendices that appeared normal, 15% had some type of pathology. Pathologic findings included endometriosis, appendicitis, as well as benign and malignant tumours of the appendix.

Conclusions: Our data reveals a high rate of pathology in our sample of appendectomy cases performed during advanced gynaecologic surgery. There were no complications directly related to the appendectomy, providing support that appropriately trained gynaecologists can safely perform appendectomy at laparoscopy. These findings support the need for evaluation and management of appendiceal pathology at the time of gynaecological surgery.

■ O-GYN-JM-004 ....

A CASE OF ADOLESCENT PELVIC INFLAMMATRORY DISEASE CAUSED BY A RARE BACTERIUM: THE WHO, WHAT, WHEN, WHERE AND HOW OF FUSOBACTERIUM NUCLEATUM

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Objectives: Pelvic inflammatory disease (PID) involves inflammation of the endometrium and contiguous structures. Most cases are caused by Chlamydia trachomatis, but other organisms have been implicated. In this report, we present a case of PID caused by Fusobacterium nucleatum.

Study Methods: A 13 year old girl presented to the emergency room with a 3 day history of nausea, fever, and abdominal pain. Three weeks prior she had suffered from a respiratory infection. She was not sexually active and had a normal menstrual cycle. Fourteen months prior she had suffered from a perforated appendix and underwent an appendectomy. Physical examination revealed tenderness in the left lower quadrant. A left ovarian cyst with reduced Doppler flow and free fluid were seen on ultrasound. At laparoscopy, a left ovarian cyst was seen. There was no torsion. There was evidence of inflammation with an exudate in the pelvis and pyosalpinges.

Results: The patient was started on antibiotics following surgery. F. nucleatum was isolated from the pelvic fluid cultures. Vaginal, cervical, and rectal cultures were all negative. Oral culture

was positive for F. nucleatum. The postoperative course was uncomplicated. On review six months later, she had no further evidence of F. nucleatum.

Conclusions: Fusobacteria are normal flora of the oral cavity. F. nucleatum was found in this adolescent's oral, and pelvic cavity and may have translocated from the young girl's mouth to the uterus when the immune system was weakened during the respiratory infection. Therefore, translocated infections may have long term implications for reproductive health.

■ O-GYN-JM-005 .... BEST OF FOUR

EFFICACY OF SURGICAL MANAGEMENT WITH MANUAL VACUUM ASPIRATION VS MEDICAL MANAGEMENT WITH MISOPROSTOL FOR EVACUATION OF 1ST TRIMESTER MISCARRIAGES: A RANDOMIZED TRIAL IN PAKISTAN

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Objectives: To compare the efficacy of Manual Vacuum Aspiration (MVA) vs vaginal misoprostol for complete uterine evacuation in first trimester (T1) miscarriages.

Study Methods: From January to July 2011, pregnant women presenting with T1 miscarriages, less than 12 weeks gestational age, to the Out Patient Department and Emergency Room at the PIMS Maternal and Child Health Centre in Islamabad were randomized to either MVA or vaginal misoprostol. A total of 130 women were recruited – 65 had surgical evacuation with MVA and 65 had medical evacuation with misoprostol. Completeness of evacuation was determined by ultrasound confirmation of central endometrial thickness =7mm (before discharge in the MVA group, and after one week in the misoprostol group). Chi-square test was used to calculate the difference in efficacy between the two groups.

Results: The success rate for achieving complete uterine evacuation was higher for the MVA group (96.9%) versus the misoprostol group (87.7%) and was statistically significant (P = 0.048).

Conclusions: Surgical evacuation with manual vacuum aspiration is more efficacious than medical management with misoprostol for complete evacuation of T1 miscarriages. Misoprostol is currently favoured for management of T1 miscarriages for its cost-effectiveness, however requires close follow-up for risk of hemorrhage, infection, and incomplete evacuation. Given that MVA is more efficacious and is associated with less need for close follow-up, it should be the management of choice for patients where follow-up is difficult, in both developing and developed countries.

■ O-GYN-JM-006 .... BEST OF FOUR

URINARY TRACT INJURIES DURING GYNECOLOGIC SURGERY IN WINNIPEG TEACHING HOSPITALS: A NINETEEN YEAR AUDIT (1991–2010)

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Objectives: To evaluate incidence, type and management of urinary tract injuries sustained during gynecologic surgery performed at Winnipeg teaching hospitals over nineteen years from 1991 to 2010, and compare to reported literature values.

Study Methods: A retrospective study of women undergoing gynecologic surgery at two teaching hospitals in Winnipeg, Manitoba from 1991–2010. All patient charts with a possible diagnosis of bladder or ureter injury coded by ICD-9 or ICD-10 and identified by the two Health Record departments were individually reviewed for injury location, primary procedure(s) and management. Additional patient demographic variables were recorded. Descriptive statistics were used to analyze the results.

Results: There were 170 separate injuries in 163 patients identified: 151 bladder injuries (88.8%), 13 ureteric injuries (7.7%) and 6 concomitant bladder and ureteric injuries (3.5%). Approximately 79.0% of the injuries occurred during laparotomy alone, 3.2% during laparoscopy alone, and 17.8% during vaginal surgery alone. The overall incidence of injuries was 0.1% (170 injuries in 146,373 procedures), while 0.36% occurred with laparotomy, 0.05% with laparoscopy and 0.2% for vaginal surgery (excluding D&C and hysteroscopy). Repair and foley catheter placement for 5–10 days was the most common treatment for patients with a cystotomy (73.2%).

Conclusions: Urinary tract injuries in Winnipeg over the analyzed time period were generally rare, and consistent with reported literature values. Laparotomy accounted for most of the injuries, while laparoscopic surgeries were least likely to result in bladder or ureter injury. Adoption of new surgical techniques has not resulted in increased urinary tract injury rates in Winnipeg, compared to other similar centers.

■ O-GYN-JM-007 ....

INCIDENTAL ADNEXAL MALIGNANCIES DURING ROUTINE LAPAROSCOPIC SURGERY

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Objectives: Adnexal surgery is frequently required in women of all ages. Since there are no accepted discriminatory tests to identify malignancy preoperatively, it is inevitable that adnexal malignancy will be encountered inadvertently which may or may not be recognized intra-operatively. The objective of this study is to estimate the incidence of incidental adnexal malignancies during routine laparoscopic surgery, and to examine its effect on clinical outcome.

Study Methods: Design: Retrospective cohort (Canadian Task Force classification II-3). Setting: University-affiliated teaching hospital. Patients: Women (mean age, 45.3y) with breast cancer, pelvic pain and/or mass.

Results: From January 1990 through December 2011, the senior author (G.A.V.) performed 1347 laparoscopic adnexal surgeries in 1139 women. Among these, there were 889 adnexectomies (bilateral-214, Rt-272, Lt-403) and 250 (> 5 cm) oophorocystectomies, and 16 malignancies (1.4%, 14 adnexae, 2 cysts): ovarian; 1 serous, 1 endometrioid adenocarcinoma, 1 immature teratoma, 2 granulosa cell, 1 Sertoli-Leydig; 1 fallopian tube papillary-serous adenocarcinoma; 9 borderline ovarian (5 serous, 4 mucinous), were subsequently detected. Six women had staging hysterectomy/adnexectomy (1 port-site metastases), 5 laparoscopic contralateral adnexectomy/appendectomy as indicated (2 cysts borderline), 5 no further surgery. At 2–15y (median 6.5y), 15 are alive (1 recurrent granulosa-cell); 1 lost to follow-up.

Conclusions: 1) During routine laparoscopic adnexal surgery, malignancies were encountered at a frequency of approximately 1.4%. 2) Inadvertent laparoscopic surgery in malignant adnexae did not adversely affect long-term outcomes in the majority of women.

■ O-GYN-JM-008 .... BEST OF FOUR

THE EFFECT OF TRAVEL DISTANCE ON THE GESTATIONAL AGE AT WHICH WOMEN PRESENT FOR ABORTIONS IN NEW BRUNSWICK

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Objectives: To examine whether a relationship exists between travel distance to clinic and the gestational age at which women present for pregnancy termination.

Study Methods: This study was a retrospective chart review of all patients having an abortion at the Morgentaler clinic in Fredericton, NB, in 2009. From each chart the patient's age, gravidity, parity, the gestational age on the day of the procedure was determined. The distance from her stated home address to the clinic was calculated. Dichotomous groups were created for gestational age and distance travelled. The relationships among the variables were examined using Pearson's correlation coefficient, T-tests, and logistic regression where appropriate.

Results: There was a positive correlation between maternal age and distance travelled (correlation coefficient 0.111, $P = 0.01$), and a negative correlation between maternal age and gestational age at the time of termination (correlation coefficient -0.161, $P = 0.01$). Women having abortions at or greater than 12 weeks gestation were significantly younger than women who had abortions at less than 12 weeks (24.2 vs 26.7, $P < 0.001$). Women who travelled 125 km or more were likely to be older than women who travelled shorter distances (25.4 vs 27.1, $P = 0.001$). The latter was also noted in logistic regression analyses (OR 0.91, $P < 0.001$).

Conclusions: This study did not show that travel distance correlates with gestational age at the time of abortion. Our findings may suggest that younger patients in the province are having more difficulty accessing abortion services.

■ O-GYN-JM-009 ....

THE STATE OF SIMULATION IN OBSTETRICS AND GYNECOLOGY TRAINING IN CANADA

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Objectives: Simulation-based education is becoming increasingly prevalent in Obstetrics and Gynecology (ob/gyn) training. This evolution has been motivated by multiple factors such as emphasis on patient safety, reduced operating room time, and decreased resident work hours. However, there is a paucity of information regarding the current state of simulation-based education in ob/gyn training programs in Canada. The objective of this study was to quantify and qualify the technical and non-technical simulation training that ob/gyn residency programs across Canada are currently incorporating. As well we aimed to identify current barriers to successful implementation or improvement of simulation training in residency programs.

Study Methods: An internet based questionnaire was distributed to the 16 ob/gyn program directors in Canada. Fifteen out of 16 program directors responded. Descriptive statistics were used to analyze the accumulated data.

Results: Out of 15 ob/gyn programs, 8 (53%) reported having a formal simulation curriculum with 6 (40%) and 4 (27%) reporting formal technical and non-technical simulation curriculum, respectively. Program directors reported on a marked gap between actual and ideal time allotment for simulation training. There was a 3-fold difference with respect to technical simulation and a 5-fold difference with respect to non-technical simulation. The most significant barriers to the implementation of simulation training were faculty time, faculty development, and lack of a local champion.

Conclusions: This study illustrates the varied degree to which simulation is currently incorporated into Canadian ob/gyn residency training. It highlights the difference between current and perceived ideal implementation and identifies related barriers.

■ O-GYN-JM-010 ....

THE PHENOMENON OF HYPERPROLACTINISM IN THE PRESENCE OF NORMAL PROLACTIN LEVELS: A RETROSPECTIVE CASE SERIES

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Objectives: Discrepancies in serum prolactin measurements may be due to heterogeneity of the prolactin hormone. Hyperprolactinism is the phenomenon of clinical symptoms of hyperprolactinemia in the presence of normal prolactin levels. Diagnosis and treatment of clinical hyperprolactinism with normal serum prolactin levels is uncertain as medical treatment is usually titrated to serum prolactin levels. Our objectives are to describe the clinical phenomenon of hyperprolactinism, to determine the prevalence of pituitary microadenoma and the impact of medical treatment in this population.

Study Methods: A retrospective chart review was conducted. All premenopasal women presenting between 1997 and 2011 with symptoms of hyperprolactinism (galactorrhea plus one of (a) infertility OR (b) menstrual irregularities) and normal initial prolactin level were included. Outcomes assessed included: prevalence of pituitary adenoma, treatment utilized, and time to resolution of symptoms.

Results: Sixty-three patients with a normal prolactin level and symptoms of hyperprolactinism were identified. Of these, 12.5% had isolated galactorrhea, 33% had associated recurrent miscarriage, 33% had amenorrhea, and 11.8% had infertility. Prevalence of pituitary microadenoma was 16% (n = 10). Treatment with cabergoline or clomiphene citrate or a combination was initiated in 86% of patients (n = 56). Of patients with infertility, 95% (18/19) who were treated conceived.

Conclusions: Hyperprolactinism is a phenomenon consisting of a spectrum of signs of hyperprolactinism in the presence of normal prolactin levels. The prevalence of pituitary microadenoma is higher in this group of women compared to the general population. These findings warrant further study on the need for and nature of investigations and treatment for these women.

■ O-GYN-JM-011 ....

WHAT DO MEDICAL AND PHARMACY STUDENTS LEARN FROM AND THINK ABOUT INTERDISCIPLINARY VIRTUAL PATIENTS?

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Objectives: In order to address student reported deficiencies in contraception curricula, students from the Faculties of Nursing, Medicine, Midwifery and Pharmaceutical Sciences collaborated on creating virtual patients (VPs). These VPs were peer reviewed and implemented into 3rd year Medicine and Pharmaceutical Sciences contraception curricula at the University of British Columbia. This study seeks to evaluate students' perceived areas of improvement and their acceptance of VPs.

Study Methods: Students were required to complete a set of VPs as pre-reading for their contraception lectures. Students who agreed to participate completed a series of case-related questionnaires. The data was analyzed using mixed methods, with qualitative data analyzed thematically to inform interpretation of quantitative data.

Results: Overall, students in both Faculties were enthusiastic about using VPs to learn about contraception. Over 90% of both cohorts believed completing the VP cases had improved their clinical performance, significantly greater than their exam performance. After evaluating domains of care, VPs were thought

to have greatly improved their knowledge as well as their abilities to counsel and manage patients. Virtual patients were found to be an engaging, interactive and effective means to actively learn content. The Pharmacy cohort was more likely to agree with making the VPs mandatory and utilizing the VPs for testing purposes. Many students in both cohorts requested the inclusion of more VPs throughout the curriculum.

Conclusions: Our findings demonstrate that the use of VPs to improve contraception education in the Faculties of Pharmaceutical Sciences and Medicine has been well received and perceived to be effective, especially in improving clinical performance.

ORAL OBS/GYN-S

■ O-OBS/GYN-S-001 .... FINALIST

COMPARISON OF OBSTETRIC, MIDWIFERY, AND FAMILY MEDICINE PATIENTS' UNDERSTANDING OF WEIGHT GAIN DURING PREGNANCY: FEW WOMEN REPORT CORRECT COUNSELING

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Objectives: Different models of care exist amongst healthcare providers, which we hypothesized would result in variations in patient-reported counseling practices. Our objective was to compare women's reports of counseling regarding gestational weight gain and the risks of inappropriate gain, across various healthcare provider groups.

Study Methods: A cross-sectional survey of obstetric, midwifery, and family medicine clinics in Hamilton, Ontario was conducted using a self-administered questionnaire. Women were eligible to participate if they had had at least one prenatal visit, could read English and had a live, singleton gestation.

Results: Three hundred and eight women completed the survey (93% response rate), and the proportion cared for by obstetricians, midwives and family physicians was approximately 30% each. Few women in each healthcare provider category reported being counseled to gain a specific amount of weight during their pregnancy, and the proportion counseled to gain the correct amount was even smaller (5.7%, 16.3%, 10.3% and 9.2% of patients of obstetricians, midwives, family physicians and other types of care providers, respectively, $P = 0.349$). Similarly, few women across all categories reported being told that there were maternal and fetal/infant risks associated with inappropriate gain. Also, only a minority of women across all care provider groups were planning to gain the amount of weight recommended by national guidelines.

Conclusions: In this first study comparing reported prenatal healthcare provider practices, low rates of counseling about gestational weight were reported amongst women cared for by obstetricians, midwives and family physicians, highlighting the universal need for more effective counseling.

■ O-OBS/GYN-S-003 .... BEST OF FOUR

INTENTION TO BREASTFEED: A POPULATION-BASED COHORT STUDY

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Objectives: Intention to breastfeed strongly predicts breastfeeding, which is associated with maternal and infant health benefits. Our objectives were to determine the population-based rates and predictors of intention to breastfeed.

Study Methods: A retrospective population-based cohort study was conducted in Ontario, Canada (April 1/09–March 31/10). The study population consisted of women who gave birth to term singletons and twins without anomalies, with information on antenatal intention to breastfeed.

Results: Our study population consisted of 92,364 women, of whom 78,806 (85.3%) intended to breastfeed. Women who were older, lived in a neighbourhood with a higher median employment rate, had no physical/mental health problems or drug problems, and were non-smokers were more likely to intend to breastfeed. Having a previous term or preterm baby, multiparity, and not attending antenatal classes were associated with a decreased intention to breastfeed. Compared to patients of obstetricians, patients of midwives (adjusted OR 3.64, 95% CI 3.13–4.23) and family physicians (adjusted OR 1.19, 95% CI 1.11–1.27) were more likely to intend to breastfeed. Conversely, women who delivered in a level 1 hospital were less likely to intend to breastfeed than those who delivered in a level 3 hospital (adjusted OR 0.85, 95% CI 0.77–0.93).

Conclusions: In this first population-based study on intention to breastfeed, approximately 85% of women intended to breastfeed. Key maternal, healthcare provider and hospital factors that are associated with a positive intention to breastfeed have also been identified, which can be targeted for intervention programs to promote breastfeeding.

■ O-OBS/GYN-S-008 .... FINALIST

RISK OF PREECLAMPSIA IN HIV-POSITIVE PREGNANT WOMEN RECEIVING HAART: A MATCHED COHORT STUDY

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Objectives: We sought to determine whether HIV-positive women receiving HAART are at higher risk for preeclampsia than HIV-negative women. Secondary outcomes included comparing the risks of preterm birth, low birth weight, and small for gestational age birth in these women.

Study Methods: In this retrospective matched cohort study, we compared the pregnancy outcomes of HIV-positive women treated with HAART with those of HIV-negative women who gave birth at Mount Sinai Hospital, Toronto, Ontario. Data were ascertained through chart review. Univariate and multivariate logistic regression models were used to compare pregnancy outcomes between the two groups.

Results: Ninety-one HIV-positive pregnant women receiving HAART and 273 HIV-negative pregnant women were identified. After adjusting for confounding factors, there was no difference between HIV-positive and HIV-negative women in the odds of preeclampsia (3.3% vs. 5.1%; adjusted odds ratio [aOR] 0.59; 95% confidence interval [CI] 0.11 to 3.08), preterm birth (15.6% vs. 11.4%; aOR 1.70, 95% CI 0.79 to 3.66) or small for gestational age infants (20.2% vs. 8.8%; aOR 2.08, 95% CI 0.89 to 5.24). HIV-positive women treated with HAART had increased odds of giving birth to a low birth weight infant compared to HIV-negative women (20.2% vs. 9.9%; aOR 2.91; 95% CI 1.47 to 5.78).

Conclusions: In this cohort, HIV-positive women on HAART did not demonstrate a higher risk of preeclampsia, preterm birth, or small for gestational age infants; however, they did have a higher risk of having low birth weight infants.