Abstracts

Cesarean Scar Size and Postoperative Pain in the Acute Postpartum Period

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Objective(s): While cesarean section (CS) is the most common inpatient surgery, there is no clear CS incision-size (CSIS) recommendation. A 15 cm Pfannenstiel is thought to facilitate expeditious delivery of a term infant; however, larger CSIS is associated with increased pain and nerve entrapment. Objectives were to determine the relationship between CSIS and acute post- operative pain, 6-week complications, and overall scar satisfaction.

Methods: A prospective cohort study was performed at a tertiary hospital in Toronto, Canada. Patients (n ¼ 117) undergoing laboring or planned low-transverse CS for singleton, term gestations were recruited. Demographical, intraoperative, analgesic, and 6-week data were collected. Numeric rating score (NRS) 4 was clinically signiûcant. Uni and multivariable logistic regression models evaluated the associations between CSIS and NRS.

Results: CSIS 15 and CSIS < 15 groups had no signiûcant differences between age, BMI, previous abdominal surgery, or CS urgency. CSIS 15 had higher wound complication rates (16.3% vs. 13.6%) although not signiûcant (P ¼ 0.558). Scar satisfaction was the same across groups (9/10, 'very satisûed'). Multivariate modelling showed the odds of having a 24 hour NRS 4 more than doubled with CSIS 15 (OR 2.151; 95% CI [0.904e5.118]; P ¼ 0.083) and fetal weight (kg, OR 2.799; 95% CI [1.047e7.482]; P ¼ 0.04).

Conclusion(s): CSIS and fetal weight contribute to acute post- operative pain, which, when poorly managed, is associated with chronic pain and postpartum depression. CSIS seems to have less of an impact on long-term satisfaction or pain. Larger population studies would be beneficial to understand these associations further.

Low-Dose Aspirin for Optimization of Postpartum Vascular Recovery Following Severe Preeclampsia: A Pilot Study

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Objective(s): Research demonstrates persistent maternal microcirculatory and conduit artery dysfunction after preeclampsia (PET) which could progress to future disease. Low-dose aspirin (LD-ASA) is a common non-steroidal anti-inûammatory which decreases the risk of recurrent PET. We hypothesize that postpartum LD-ASA may ameliorate microvascular dysfunction that occurs after PET.

Methods: This was a double-blind, placebo-controlled pilot study designed to assess the effect of daily postpartum LD-ASA on dermal microvascular function after severe PET. Eligible singleton pregnancies complicated by severe PET were recruited and randomized to daily 81 mg ASA (n ¼ 4) or a placebo (n ¼ 4). At randomization, 1e3 months postpartum, and 6 months postpartum, microvascular perfusion was measured using laser speckle contrast imaging. Perfusion changes to iontophoresis (non-invasive drug administration) of 1% w/v acetylcholine under an applied current (20 uA for 200 seconds) were measured in the right volar forearm.

Results: Study groups did not differ significantly in age, blood pressure, and baseline microvascular function at all study visits. All participants were >80% compliant with medication. By 6 months postpartum, those receiving LD-ASA displayed enhanced microvasoreactivity compared to placebo (two-way repeated measures ANOVA; P ¼ 0.038).

Conclusion(s): This pilot study found that a six-month trial of daily LD- ASA signiûcantly enhances microvasoreactivity, compared to placebo, in women with prior severe preeclampsia. This may represent an abrogation in early postpartum inûammatory and pro-oxidative changes associated with the condition, and a therapeutic target to mitigate the risk of future disease after PET.

Amniocentesis and Therapeutic Amnioreduction Prior to "Rescue Cerclage" (AARC Protocol): A Prospective Observational Study

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Objective(s): Determine whether amniotic fluid tests would identify patients who would benefit from rescue cerclage.

Methods: This was a prospective observational study conducted between December 2021 and December 2023. We included pregnancies involving singleton and twins, gestational age (GA) between 14 and 24 weeks, cervical dilation < 4 cm, with membranes at or beyond the external os and no labour signs. Risk of intra-amniotic inflammation or infection (IAI) was assessed using amniotic fluid white cell count, interleukin-6, glucose, gram-stain and culture. Amniocentesis to delivery interval (ADI) was the primary outcome. Secondary outcomes included GA at delivery and perinatal survival.

Results: A total of 26 patients were included, with five undelivered at abstract submission. The mean amniocentesis GA was 20.9 weeks. Nine patients (42.8%) had low-risk amniocentesis results, all of whom had rescue cerclage. The mean ADI among those with low-risk amniotic fluid tests was 78.8 days with mean GA at delivery of 32.8 weeks. Among this group, perinatal survival was 100%. Twelve patients (57.2%) had high-risk amniocentesis results, of which three patients had rescue cerclage. The mean ADI among those with high-risk amniotic ûuid tests was 18.1 days with mean GA at delivery of 23.0 weeks. Among this group, perinatal survival was 41.7%. There were no survivors among those who underwent rescue cerclage, whose mean ADI was 22.7 days.

Conclusion(s): Our AARC protocol identiûes low-risk patients for IAI who would beneût from rescue cerclage.

SNACS: Single Dose of Antenatal Corticosteroids for Pregnancies at Risk of Preterm Birth - Randomized Controlled Trial

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Objective(s): Antenatal corticosteroids (ACS), given to pregnancies at risk of preterm birth, decrease infant mortality and morbidity when babies are born very early. Importantly, recent studies suggest that ACS may be associated with neurodevelopmental harm. Research also suggests that a single dose of ACS may mature preterm lungs similarly to double doses. However, this trial, funded by Canadian Institutes of Health Research and Australian Medical Research Future Fund, is needed to assess single versus double doses of Betamethasone. In pregnancies at risk of preterm birth, between 22 to 34 weeks', is 1 versus 2 doses (12 mg vs. 24 mg) Beta- methasone 1) non-inferior for the primary composite outcome of perinatal mortality (fetal or neonatal), severe respiratory morbidity (need for surfactant within 48 hours of birth), grade 3 intraven tricular hemorrhage, or stage 2 necrotizing enterocolitis and 2) superior for secondary neurosensory and developmental outcomes assessed at 24 months corrected age.

Methods: International, multicentre, double blind, non-inferiority randomized controlled trial. Stratification will be by centre and by gestational age at randomization (early ¼ 28 weeks). Planned sample size is 3254 patients. Analysis will be done using both per protocol and intention-to-treat methods. Parents will be contacted for infant follow-up at 24 months of age to complete neurodevelopment questionnaires (ages and stages-3 and child behavior checklist).

Results: Recruitment began in July 2023.

Conclusion(s): This collaboration involves our five parent partners, and high-risk obstetrics centres across Canada and Australia. Come hear more about SNACS! We need you!

Estetrol for the Treatment for Menopausal Vasomotor Symptoms: Phase 2 and Phase 3 Efficacy Results

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Objective(s): To evaluate the efûcacy of E4 for the treatment of moderate to severe vasomotor symptoms (VMS) in post- menopausal women.

Methods: Data was compiled from two multicenter, randomized, double-blind, placebo-controlled studies: a dose-ûnding phase 2 trial and a phase 3 efûcacy

trial. Both studies enrolled hysterectomized and non-hysterectomized postmenopausal women (aged 40 to 65 years) experiencing 7 daily or 50 weekly moderate to severe VMS in the week before randomization. In the phase 2 trial, participants received an oral dose of E4 2.5, 5, 10, 15 mg or placebo once daily for 12 weeks. In the phase 3 trial, participants were randomized to E4 15 mg, 20 mg, or placebo orally once daily for 12 weeks. Efficacy was assessed by the mean change from baseline in frequency and severity of VMS at week 4 (W4) and week 12 (W12) compared to placebo. ANCOVA + LOCF for phase 2 and Mixed Model Repeated Measures (MMRM) were used for phase 3 statistical analysis.

Results: In phase 2 (n ¼ 257), E4 15 mg was the minimum effective daily for reducing VMS frequency and severity when compared to placebo at W4 and W12 ($P < 0.05$). In phase 3 (n ¼ 640), both E4 doses were associated with a significant reduction in frequency (up to 80%) and severity (up to 51%) of moderate to severe VMS at W4 and W12 compared to placebo ($P < 0.05$).

Conclusion(s): At an oral dose of 15 mg and 20 mg, E4 is effective at decreasing vasomotor symptoms in postmenopausal women with moderate to severe vasomotor symptoms.

The Impact of the Combined Oral Contraceptive Estetrol 15 mg/Drospirenone 3 mg (E4/DRSP) on Blood Pressure: Pooled Data from Two Phase III Clinical Trials

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Objective(s): To evaluate the impact of E4/DRSP on blood pressure (BP) in normotensive and high normal BP participants.

Methods: We pooled BP data from two open-labels, phase 3 trials conducted in US/Canada and Europe/Russia. These trials enrolled healthy participants aged 18 to 50 years (EU/RUS) or 16e50 years (US/CAN) with body mass index of 18 35 kg/m2 to use E4/DRSP for up to 13 cycles. BP was measured at baseline and end of treatment (EoT) (dropouts included). We evaluated changes in BP in participants with normal baseline BP (systolic BP [SBP] < 130 mmHg and diastolic BP [DBP] < 85 mmHg) and participants with a high normal baseline BP (SBP 130 mmHg and/or DBP 85 mmHg). The changes from baseline were analyzed using Student's t test.

Results: 3417 participants were enrolled (EU/RUS n ¼ 1553; US/CAN n ¼ 1864), 3042 participants had a normal BP, and 375 participants had a high-normal BP at baseline. In normotensive participants, mean ± SD population BPs at baseline and EoT were similar (SBP: 111.7 ± 9.0 mmHg and 112.8 ± 10.1; DBP 71.0 ± 6.9 mmHg and 72.1 ± 7.4 mmHg). In high normal baseline BP participants, mean population SBP decreased by 7.6 ± 9.7 mmHg from 129.2 ± 7.0 mmHg to 121.9 ± 9.6 mmHg at EoT ($P < 0.0001$); mean population DBP decreased by 4.0 ± 7.7 mmHg from 82.7 ± 5.8 at baseline to 78.5 ± 7.6 mmHg at EoT ($P < 0.0001$).

Conclusion(s): E4/DRSP did not modify BP in normotensive women, but a clinically relevant BP decrease was observed in women with a high normal BP. These findings suggest potential consideration for studying this combination in patients with mild hypertension.

Predictors of Perioperative Opioid Use in Hysterectomy Patients: A Prospective Cohort Study

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Objective(s): With the opioid crisis, there is momentum to limit opioid use. Little is known about predictors of opioid use in the immediate postoperative phase. Inadequate pain control can increase morbidity and risk of chronic pain. The primary study objective was to determine predictors of increased opioid requirements in the immediate perioperative phase.

Methods: A prospective cohort study including scheduled laparoscopic, vaginal, abdominal, or robotic hysterectomies was per- formed over one year at an academic tertiary hospital in Toronto, Canada. Patients completed preoperative questionnaires including demographics, Pain Sensitivity Questionnaire (PSQ), pain catastrophizing scale, Beck depression inventory, brief pain inventory, preoperative pain using a numeric

rating scale (NRS), and analgesia use prior to surgery. Morphine equivalent doses (MED) were collected intraoperatively and 24 hours postoperatively. Non-parametric, bivariate, and multivariate analyses were performed.

Results: Two hundred participants were analyzed. In the multivariate analysis, open hysterectomy and PSQ score predicted higher intraoperative MED. Open hysterectomy and number of preoperative pain medications predicted higher 24 hour post-operative MED. Open hysterectomy, number of preoperative pain medications, and PSQ total score predicted higher total MED. One additional unit of PSQ score increased total MED by 5.17 mg. Patients with open hysterectomy consumed 59.18 mg more than MIS patients, and one additional pain medication increased total MED by 10.76 mg. The model explained 39.8% of variability in total MED.

Conclusion(s): This study identiûed clinical predictors of increased opioid requirements in the immediate postoperative phase. This may help inform patient-tailored management plans, which are essential in appropriate opioid use.

Three Techniques for Performing a Hysteroscopic Septoplasty

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Description: The clinical application of hysteroscopic septo- plasty in gynaecology surgery is reviewed in this video, as well as the beneûts and limitations of its use. Uterine septa are relatively com- mon and are reported to confer a higher incidence of subfertility, pregnancy loss, and preterm birth. Management is generally directed towards fertility optimization with hysteroscopic resection. A brief review of relevant literature is discussed, summarizing the lack of consensus regarding management and outcomes. While more robust evidence is required, this raised questions surrounding optimal technique and patient selection for septoplasty. Three surgical techniques using cold scissors, electrocautery and advanced morcellation are then demonstrated, with discussion included to assist in guiding surgical decision making. Post-operative complications of hysteroscopic septoplasty are also brieûy reviewed, with a focus on prevention of intrauterine adhesions.