indicated CD; and the absence of treatment with aspirin, unfractionated heparin, or low-molecular-weight heparin. The exclusion criteria were smoking, opiate, or alcohol consumption during gestation, fetal structural or chromosomal anomalies. Uterine Artery Doppler (trans-abdominally) studies were performed for all participants between 18-22 gestational weeks. The mean pulsatility index (PI), resistance index (RI), presence of a systolic notch and placental location were recorded. Mean uterine artery PIs and RIs >95th percentile was considered increased. Pearson correlation coefficients, chi-squared analyses, Logistic regression analyses, receiver operating characteristic (ROC) curves, likelihood ratios, and predictive values were used to analyze the correlations and relationships between variables.

RESULTS: Compared with the women with prior NVD, women with prior CD had significantly higher rates of increased adverse pregnancy outcomes (23.5% vs. 4%, p=0.001). Among the women with previous CD, all of the measured adverse outcomes were observed significantly more frequently in the women with abnormal uterine artery Doppler indices (p<0.001). (Table 1) Increased PI (sensitivity: 70.2%, specificity: 92.1%) and RI (sensitivity: 80.8%, specificity: 92.1%) were good predictors of adverse pregnancy outcomes in the women with previous CD. (Table 2)

CONCLUSION: In the women with prior CD, increased PI and RI were very good predictors of adverse pregnancy outcomes and could be used as screening tools.

### Table 1: The associations between increased uterine artery pulsatility and resistance indices and adverse pregnancy outcomes in women with previous cesarean delivery

<table>
<thead>
<tr>
<th>Measured Outcomes</th>
<th>Increased pulsatility indices (PI)</th>
<th>Increased resistance indices (RI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (n=49)</td>
<td>No (n=155)</td>
</tr>
<tr>
<td>Presence of notch</td>
<td>6 (13.3%)</td>
<td>8 (5.2%)</td>
</tr>
<tr>
<td>Uterine artery abnormality</td>
<td>16 (40%)</td>
<td>8 (5.2%)</td>
</tr>
<tr>
<td>Postpartum complications</td>
<td>9 (22%)</td>
<td>7 (4.5%)</td>
</tr>
<tr>
<td>Maternal blood loss</td>
<td>14 (32%)</td>
<td>10 (6.5%)</td>
</tr>
</tbody>
</table>

### Table 2: The predictive values of mid-pregnancy uterine artery Doppler indices in predicting the occurrence of adverse pregnancy outcomes

Table 1: Demographic and obstetrical characteristics for the study and control groups

<table>
<thead>
<tr>
<th></th>
<th>Bilateral tubectomy</th>
<th>Bilateral tubal ligation</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=44</td>
<td>n=92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal Age (y)</td>
<td>37.5±3.5</td>
<td>36.0±3.9</td>
<td>0.03</td>
</tr>
<tr>
<td>Age ≥35y</td>
<td>37 (84.1)</td>
<td>64 (69.6)</td>
<td>0.09</td>
</tr>
<tr>
<td>Pre-gestational BMI</td>
<td>25.9±5.6</td>
<td>27.4±5.0</td>
<td>0.13</td>
</tr>
<tr>
<td>Smoking</td>
<td>3 (6.8)</td>
<td>4 (4.3)</td>
<td>0.68</td>
</tr>
<tr>
<td>Gravidity</td>
<td>4 (3.0-5.7)</td>
<td>4 (3.2-5.0)</td>
<td>0.98</td>
</tr>
<tr>
<td>Parity</td>
<td>3 (2-3)</td>
<td>3 (2-3)</td>
<td>0.55</td>
</tr>
<tr>
<td>Previous CS</td>
<td>1.7±1.0</td>
<td>2.0±1.0</td>
<td>0.06</td>
</tr>
</tbody>
</table>

### 710 Bilateral salpingectomy vs tubal ligation for permanent sterilization during a cesarean delivery

Shiri Shinar, Eran Ashwal, Yair Blecher, Sharon Alpern, Uri Amikam, Ariel Many, Yariv Yogev, Liran Hiersch, Aviad Cohen
Sourasky medical center, Tel Aviv, Israel

OBJECTIVE: Sterilization via bilateral salpingectomy is slowly replacing bilateral tubal ligation (BTL), as it is believed to decrease the incidence of ovarian cancer. Our objective was to compare short-term complication rates of bilateral salpingectomy vs. BTL performed during the course of a cesarean section.
Short and long term complications of retained placenta after vaginal delivery
Shiri Shinar¹, Matan Anteby², Ariel Many¹
¹Sourasky medical center, Tel Aviv, Israel, ²Sackler school of medicine, Tel Aviv University, Tel Aviv, Israel

OBJECTIVE: To assess risk factors and short and long term complications of RePl (retained placenta) necessitating manual removal during the third stage of labor.

STUDY DESIGN: An historical prospective cohort study in a single tertiary center in 2012-2014. All parturients with RePl during the third stage of labor were compared with matched parturients with spontaneous placental separation delivering on the same day. Women with multiple gestations, preterm deliveries <37 weeks, suspected incomplete spontaneous placental separation or known uterine malformations were excluded. Our computerized database was reviewed for risk factors and short term complications (postpartum fever, prolonged hospitalization and blood product consumption). Telephone questionnaires were conducted to assess long term complications (defined as an invasive procedure performed for suspected RPOC - retained products of conception - after discharge from hospital).

RESULTS: 293 deliveries (1.5% of all vaginal deliveries) necessitated manual placental removal due to a prolonged third stage and were compared with 293 matched deliveries with spontaneous placental separation. Independent risk factors for RePl included older age (p<0.001), primiparity (p<0.001), prior episodes of RPOC (OR 13.54, p<0.001, CI, 3.9-55.8), previous miscarriages (p<0.03), labor induction (p<0.001) and epidural anesthesia (p<0.001). Short term complications including blood product consumption (OR 17.5, CI 5.2-71.6) and longer hospitalizations were significantly more common (p<0.001). Eighty six percent and 78% of the women in the study and control groups respectively participated in the telephone questionnaire. Invasive procedure for removal of suspected RPOC in the 12 weeks following labor occurred in 12.2% and 0% of the women in the study and control groups, respectively (P<0.001) (Table 1).

CONCLUSION: RePl necessitating manual removal harbors short and long term complications. The likelihood of an invasive procedure up to 12 weeks postpartum is high. Consideration should be given to inclusion of this occurrence in the informed consent at the time of manual placental removal.

Table 1 - Complications associated with manual placental removal

<table>
<thead>
<tr>
<th>Manual removal of products of conception</th>
<th>Control</th>
<th>P</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalization period (days)</td>
<td>4.1 ± 1.2</td>
<td>3.0 ± 0.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Women requiring blood products</td>
<td>30/293 (10.2%)</td>
<td>30/293 (10.2%)</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Change in Hgb (reappraisal to postpartum)</td>
<td>3.8 ± 1.76</td>
<td>1.47 ± 0.49</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Postpartum fever</td>
<td>10/293 (3.4%)</td>
<td>3/15</td>
<td>0.034</td>
</tr>
<tr>
<td>Invasive procedure for suspected RPOC</td>
<td>3/293 (1.1%)</td>
<td>0/293 (0)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

RPOC retained products of conception

712 Incidence and risk factors for hospital readmission after unscheduled cesarean
George Saade, for the Cesarean Section Optimal Antibiotic Prophylaxis (CSOAP) Trial Consortium
The University of Texas Medical Branch, Galveston, TX

OBJECTIVE: Hospital readmissions are increasingly being tracked and used for value-based compensation. Our objective was to estimate the incidence of post-cesarean readmissions and evaluate risk-factors.

STUDY DESIGN: This was a secondary analysis of a multicenter trial in which women were randomized to receive azithromycin or placebo in addition to standard prophylaxis at the time of unscheduled cesarean (after onset of labor or >4 hours of ROM). Patients were followed up to 6 wks postpartum (PP) and outcomes were ascertained by trained staff according to preestablished criteria. Hospital admissions and unexpected visits (unscheduled clinic, triage or emergency department visits) were abstracted. Demographic, antepartum, intrapartum and PP risk factors were compared using univariate and multivariable analyses.

RESULTS: Across 14 sites, 1019 women were randomized to azithromycin and 994 to placebo; 76 (3.8%) were readmitted, and 206 (10.2%) were readmitted and/or had an unexpected visit. Compared with those who were not, women who were readmitted were more likely to be Black, obese, diabetic, as well as have longer length of ROM, IUPC placed, vertical skin incision, and PP fever. On multivariable analysis, diabetes, drug use, ROM > 18 hours, vertical skin incision, and PP fever were significantly associated with readmission (Fig 1). PP fever had the strongest association (aOR 11.5; 95%CI 6.7-19.8). Compared with women who did not, women who had any readmission or unexpected visit were heavier, more likely to have had gestational diabetes, received steroids for fetal pulmonary