

maternal stages. Hepatosplenomegaly develops early and resolves last after antepartum treatment. Further studies are needed to clarify whether findings at delivery are due to active infection or cure with resolving abnormalities.

40 Should the "39 week rule" apply to women with multiple prior cesarean deliveries?

Laura Hart¹, Jerrie Refuerzo¹, Baha Sibai¹, Sean Blackwell¹

¹UT Health- University of Texas Medical School at Houston, Department of Obstetrics, Gynecology and Reproductive Sciences, Houston, TX

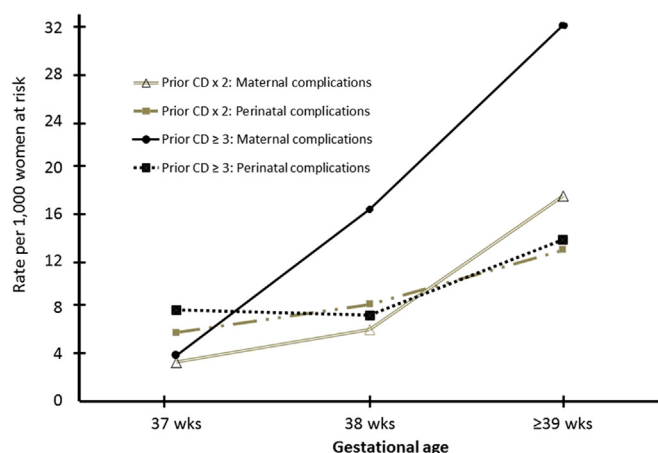
OBJECTIVE: There is a paucity of evidence regarding the optimal time to perform repeat cesarean delivery (CD) in women with multiple prior CD's. The current recommendation for the timing of delivery is 39 weeks, regardless of the number of prior CD's. We hypothesize that women with ≥ 2 previous CD's will benefit from early term delivery in order to decrease maternal complications without increasing adverse perinatal outcomes.

STUDY DESIGN: Women with ≥ 2 previous CD's who achieved ≥ 37 weeks 0 days were studied. Exclusion criteria were underlying medical (e.g. chronic HTN, diabetes) or obstetrical conditions (e.g. multiple gestations, placenta previa, prior classical CD) that required indicated delivery prior to 39 wks. Risks for adverse maternal and/or perinatal outcomes were calculated based on the timing of delivery vs. those women who remained undelivered. The maternal composite included any of the following: transfusion, hysterectomy, operative injury (cystotomy, ureteral injury, or bowel injury), coagulopathy, thromboembolic event, pulmonary edema, or death. The perinatal composite included any of the following: respiratory distress syndrome, necrotizing enterocolitis, intraventricular hemorrhage grades 3 or 4, seizures, or death (fetal or neonatal).

RESULTS: There were 6,435 women who met the study criteria and were analyzed. Complication rates were significantly different across gestational ages for both maternal ($p < 0.05$) and neonatal outcomes ($p < 0.05$). For women with prior CD x 2, the risk of adverse maternal outcomes increased three-fold with a concomitant increase in the risk of adverse perinatal outcomes between 38 to 39 weeks. In women with ≥ 3 previous CD's, the risk of maternal complications increased four-fold between 37 to 38 weeks (see Figure).

CONCLUSION: Our findings suggest that the optimal time for scheduled delivery of women with 2 previous CD's is between 38 wks 0 and 38wk 6 days and between 37 wks 0 and 37 wks 6 days for women with ≥ 3 previous CD's.

Maternal and Perinatal Complication Rates in Women with Multiple Prior CD's



41 Effect of lactation on maternal postpartum cardiometabolic status—a murine model

Aaron Poole¹, Phyllis Gamble¹, Esther Tamayo¹, Igor Patrikeev², Jingna Wei², Kathleen Vincent¹, Gayle Olson¹, George Saade¹, Alison Stuebe³, Egle Bytautiene¹

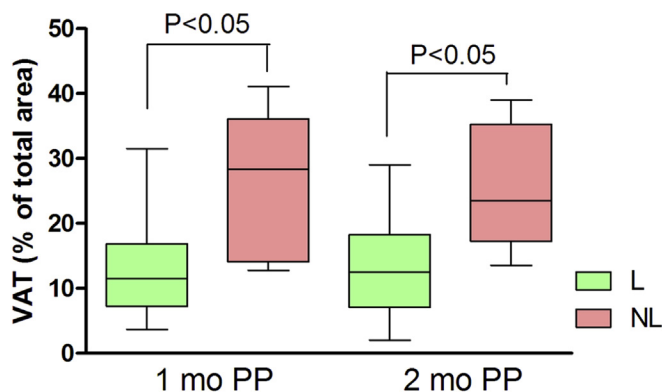
¹University of Texas Medical Branch, Obstetrics and Gynecology, Galveston, TX, ²University of Texas Medical Branch, Center for Biomedical Engineering, Galveston, TX, ³UNC School of Medicine, Obstetrics and Gynecology, Chapel Hill, NC

OBJECTIVE: Lactation is associated with reduction in maternal metabolic disease and hypertension later in life; however the findings in humans may be confounded by socioeconomic factors. We sought to determine the independent contribution of lactation on future metabolic and cardiovascular parameters in a murine model.

STUDY DESIGN: Following delivery, CD-1 female mice were randomly divided into two groups: lactating (L, nursed pups for 3 weeks, n=10), and nonlactating (NL, pups were removed after birth, n=10). During the first week of gestation and at 1 month postpartum (mo PP) systolic (SBP), diastolic (DBP) and mean arterial (MAP) blood pressure were measured via non-invasive tail-cuff blood pressure monitoring system. Visceral (VAT) and subcutaneous adipose tissue (SAT) were measured using a micro-computed tomography scanner at 1 and 2 mo PP. Cardiac ejection fraction (EF), cardiac output (CO) and the ratio of the early (E) to late (A) ventricular filling velocities (MV E/A) were evaluated at 2 mo PP using Visualsonics Vevo 770 high resolution micro-ultrasound. Results were analyzed using Student's t-test (significance: $P < 0.05$).

RESULTS: There was no significant blood pressure difference between groups during week 1 of pregnancy. Though at 1 mo PP, SBP (122.2 ± 7.1 vs 96.8 ± 9.8 mmHg, $P=0.04$), DBP (87.0 ± 6.8 vs 65.9 ± 6.1 mmHg, $P=0.04$) and MAP (102.7 ± 7.1 vs 80.2 ± 6.8 mmHg; $P=0.04$) were significantly higher in NL mice than in L mice. VAT was significantly increased in NL mice at 1 and 2 mo PP (Fig), while SAT did not differ between the groups. At 2 mo PP, EF (51.7 ± 1.5 vs 60.5 ± 3.7 %; $P=0.04$), CO (13.6 ± 0.8 vs 17.3 ± 1.4 ; $P=0.04$) and MV E/A (1.4 ± 0.1 vs 1.7 ± 0.1 ; $P=0.04$) were significantly lower in NL mice than L mice.

CONCLUSION: Our data provide novel evidence of a direct beneficial effect of lactation on long-term maternal cardiovascular function and adiposity. Discussions regarding the impact of lactation on health should include these maternal benefits in addition to the already accepted benefits to the infant.



Box plot: median, 25th-ile, 75th-ile, max and min values. L- lactating group, NL - nonlactating group, mo PP - months postpartum.