309 Uterine rupture in women with previous cesarean for dystocia in second stage of labor

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OBJECTIVE: To evaluate the risk of uterine rupture in women undergoing a trial of labor (TOL) after a previous cesarean for dystocia in second stage of labor.

STUDY DESIGN: A retrospective cohort study of women with a single previous low-transverse cesarean undergoing a first TOL was performed. Women with a previous cesarean for dystocia in second stage were compared to those with previous dystocia in first stage and those with previous cesarean for non-recurrent reasons. Chi-square and Fishers exact were used when appropriate.

RESULTS: Out of 1950 women, those with previous dystocia in second stage of labor (n=220) had a similar risk of uterine rupture than women with previous dystocia in the first stage (n=639) and women with previous cesarean for non-recurrent indication (1.8%, 1.7%, and 1.5%, respectively, p=0.88). However, we found that all (100%) uterine ruptures in the former group occurred in the second stage of labor ($p<0.05$) compared to 18% and 25% in the two other groups ($p<0.05$). The median length of the second stage of labor before uterine rupture was 2.5 hours (interquartile: 1.5 3.2 hours) for those cases.

CONCLUSION: Previous cesarean for dystocia in the second stage of labor is associated with uterine rupture in the second stage of the subsequent delivery. This may be related to a lower location of the uterine scar, which may be more prone to rupture at an advanced cervical dilatation during the next delivery. Prolonged second stage should be avoided in these women.

310 Induction of labor after a prior cesarean delivery lessons from a population based study

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OBJECTIVE: Trial of labor (TOL) after a previous cesarean section (CS) is one of the tools to reduce the increasing CS rate. The safety and efficacy of induction of labor (IOL) in these patients is still controversial. The aims of the study were: 1) to determine the success rate of IOL in women with a prior low-transverse CS; 2) to compare the perinatal outcome of a TOL in women with one prior CS who had an IOL, spontaneous TOL, or an elective repeat CS (RECS).

STUDY DESIGN: A retrospective cohort study, including all patients with a prior low-transverse CS in their subsequent delivery of a vertex singleton in our medical center from 1988 until 2005 (n=7755). The maternal and neonatal demographical and medical data were obtained from a computerized database. The patients were classified into three groups: 1) women who underwent RECS (n= 1916); 2) women who had a spontaneous TOL (n= 4263); and 3) women who underwent IOL (n=1576).

RESULTS: 1) the rate of IOL in the study cohort was 20.3%, and 67.4% of those who had IOL had a VBAC; 2) patient in the spontaneous TOL had a VBAC rate of 72.9% which is higher than that of the IOL group ($p<0.001$); 3) repeated CS due to labor dystocia were more prevalent in women in the IOL group than in the spontaneous TOL group (22.5% vs. 9.95%, OR 2.62, 95% CI 2.24-3.06); 4) the rate of uterine rupture was comparable among all study groups; 5) post partum infectious morbidity was higher among patients in the IOL group than in those who had a spontaneous TOL or an RECS ($p<0.001$); 7) in a multivariable analysis, labor dystocia at previous pregnancy, maternal illness, and IOL, were all independent risk factors for repeated CS.

CONCLUSION: 1) IOL in patients with a previous CS is successful in about 2/3 of the cases; 2) nevertheless, in comparison to spontaneous onset of labor, IOL is an independent risk factor for repeated CS; 2) the rate of labor dystocia is higher among patients who had an IOL than those delivering spontaneously; and 3) a risk assessment model for the success of TOL by an IOL after a CS is needed.

311 The physician factor in inductions of labor and cesarean delivery rates

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OBJECTIVE: To investigate if a physicians time in practice and type of practice (group vs. solo) has any impact on cesarean delivery (CD) rates for induced labors and if physicians with high induction rates have higher CD rates.

STUDY DESIGN: We performed a retrospective study of 1243 singleton, cephalic, term (> 37 wks) inductions delivered by 43 obstetricians over 2 years in a tertiary center. Physicians with more than 50 deliveries per year were studied. Physician experience was measured by the number of years in practice since residency. There were 27 physicians in group practice and 16 physicians in solo practice. Patient characteristics, rates of induction and CD rates were studied in relationship to the experience of physician. Patients with previous CD were excluded. The primary outcome variable was the percent of each physicians induced labors that resulted in a CD. Analysis was performed by using Pearson correlation and logistic regression. Regression analysis was performed using physician and patient characteristics as explanatory variables for CD among the patients who were induced. Induction rates and total inductions were dichotomized based on 75th percentile (20%) and t- tests were performed.

RESULTS: Of the 1243 induced patients, 364 [29 %] had a CD. Nulliparity (25.1% vs. multiparity 3.62%, p 20%, p=0.52). Physicians in group practice had lower CD rates compared to solo practitioners (p=0.04).

CONCLUSION: Our data shows that, experience and induction rates of the physician do not influence CD rates. Group practice may reduce the CD rates.

312 Differential mRNA expression in myometrial tissue of obese gravidas

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OBJECTIVE: This study investigates differential expression of genes in myometrial tissue of obese women undergoing cesarean section. Obese women have an increased risk of dysfunctional labor, with higher rates of induction, failed induction, and cesarean section. Understanding the differences in gene expression patterns may provide a foundation by which to understand the mechanisms of dysfunctional labor in obese women.

STUDY DESIGN: We recruited women presenting for term cesarean delivery. They were divided into four groups: Group 1, primary cesarean, BMI 25-34.9 (n=2); Group 2, primary cesarean, BMI 35-44.9 (n=3); Group 3 primary cesarean, BMI ≥ 45 (n=3); Group 4, repeat cesarean, BMI ≥ 45 (n=4). At delivery, a full thickness myometrial biopsy was acquired. For each group, the pooled mRNA was analyzed with an Affymetrix GeneChip Human Gene 1.0 ST Array (Affymetrix, Santa Clara, CA). Trends were evaluated across the strata of BMI in a