

**149 DURATION OF THE SECOND STAGE OF LABOR AND SUCCESS RATES FOR TRIALS OF LABOR AFTER CESAREAN DELIVERY** BENJAMIN HAMAR<sup>1</sup>, CAROL KEOHANE<sup>2</sup>, IAN GRABLE<sup>3</sup>; <sup>1</sup>Beth Israel Deaconess Medical Center, Obstetrics and Gynecology, Boston, MA; <sup>2</sup>Beth Israel Deaconess Medical Center, Maternal-Fetal Medicine, Boston, MA; <sup>3</sup>Society for Maternal-Fetal Medicine, Maternal-Fetal Medicine, Boston, MA

**OBJECTIVE:** To determine the success rate for trials of labor (TOL) after cesarean delivery (CD) as a function of duration of the second stage of labor.

**STUDY DESIGN:** Retrospective Cohort Study. All trials of labor between July 1, 2000 and June 30, 2001 were identified through a computerized database search. Charts were obtained and reviewed for women who reached the second stage of labor. Data were analyzed with X2 analysis and relative risks were calculated.

**RESULTS:** During the study period, 5004 deliveries occurred including 305 TOLs and 121 successful vaginal births after cesarean (VBAC). The VBAC attempt rate was 50.4% and the success rate was 39.7%. Compared with all women attempting TOL, the relative risk (RR) for VBAC for those reaching the second stage was 4.0 (95% CI: 2.9, 5.7). The TOL success rate decreased to 66.0%, 43.5%, and 22.2% after 1, 2, and greater than 3 hours of the second stage. As the duration of the second stage increased, the proportion of operative vaginal deliveries and CDs increased. Success rate was increased with a history of prior vaginal birth but a time related decrease in success rates could still be demonstrated. Pitocin use, induction of labor, and epidural anesthesia did not have a significant effect on success rate ( $P < .1$ ). The RR for TOL success with a history of second stage arrest was 0.24 (95% CI: 0.10, 0.56). The RR for TOL success with ruptured membranes greater than 8 hours was 0.27 (95% CI: 0.11, 0.65). Morbidity incidence was low but showed a general cumulative increase with second stage duration. There was one confirmed uterine rupture in the study group in the second stage.

**CONCLUSION:** Women reaching the second stage of labor during a TOL have an increased chance of successful VBAC when compared to all TOLs, but this success rate decreases as the time in the second stage increases. A larger sample size will be able to determine the relationship between duration of second stage and adverse maternal and fetal outcomes.

**150 TRIAL OF LABOR IN PATIENTS WITH A PREVIOUS CESAREAN SECTION: DOES MATERNAL AGE INFLUENCE THE OUTCOME?** EM-MANUEL BUJOLD<sup>1</sup>, CAMILLE BUJOLD<sup>2</sup>, ROBERT J. GAUTHIER<sup>2</sup>; <sup>1</sup>Wayne State University, Obstetrics and Gynecology, Detroit, MI; <sup>2</sup>Sainte-Justine Hospital, Ob/Gyn, Montreal, Quebec

**OBJECTIVE:** Prior studies found that there was an increased risk of cesarean section with advancing maternal age. Our goal was to determine the rate of cesarean section and the rate of uterine rupture according to maternal age after adjusting for confounding variables.

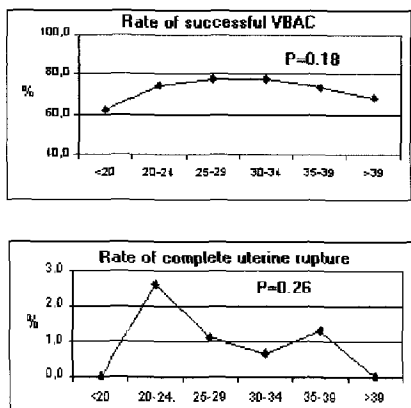
**STUDY DESIGN:** Charts of all patients who had a trial of labor after a previous low transverse cesarean between 1988 and 2000 in our center were reviewed. Patients were divided into 6 groups according to the maternal age (<20, 20-24, 25-29, 30-34, 35-39 and >39 years old). The rate of successful vaginal delivery and the rate of complete uterine rupture were calculated. A multivariate regression analysis was performed.

**RESULTS:** 2233 patients were included and divided in groups of 8, 151, 626, 922, 453 and 73 patients. Patients less than 35 years old were more prone to have a successful vaginal delivery (77.4% vs 72.6%,  $P = .001$ ) and the difference remained significant after controlling for 12 confounding variables 1.40 (1.10-1.78).

**CONCLUSION:** Consistent with previous studies, we found, in our series, that patients less than 35 have a higher rate of successful VBAC. Analysis of each age groups found that the rate of successful VBAC tended to be higher in patients between 25 and 35 years old and lower in the extremes. The rate of uterine rupture was not influenced by maternal age.

**Figure**

Rate of successful VBAC (top); rate of complete uterine rupture (bottom).



**151 VAGINAL BIRTH AFTER CESAREAN AND THE GRANDMULTIPAROUS PATIENT** GAIL MATTHEWS<sup>1</sup>, DANIEL SALTZMAN<sup>1</sup>; <sup>1</sup>New York University School of Medicine, Obstetrics and Gynecology, New York, NY

**OBJECTIVE:** To evaluate the success and report the prevalence of complications in grandmultiparous patients who undergo trial of labor after previous cesarean deliveries.

**STUDY DESIGN:** We performed a three year retrospective study of all grandmultiparas (patients with five or more previous deliveries) with a history of one or more previous cesarean deliveries who had a trial of labor in their current pregnancy (n = 101). We compared them to a group of randomly selected age-match controls of lower parity (i.e. 1-2 prior deliveries, n = 147) who also had a history of previous cesarean delivery and were attempting a trial of labor. The rates of successful vaginal deliveries after cesarean and complications such as uterine rupture in both groups were compared and analyzed. This study had an 80% power to detect a difference in successful vaginal deliveries after prior cesarean sections.

**RESULTS:** Grandmultiparas had a lower incidence of cesarean deliveries both in their past reproductive history and in their current pregnancies than did women of lower parity. Of all women undergoing trial of labor, 87% of the grandmultiparas and 39% of the controls achieved vaginal birth after cesarean in their current delivery ( $P = .001$ ). The grandmultiparous patients used epidurals less frequently, 37% vs 60%, ( $P = .007$ ). Both groups were equally likely to receive oxytocin. There was one uterine rupture in a grandmultiparous patient with a history of three previous cesarean deliveries. The risks of maternal complications such as post-partum hemorrhage, retained placenta and shoulder dystocia were uncommon and similar in both groups. Controls had a higher incidence of chorioamnionitis ( $P = .003$ ).

**CONCLUSION:** The grandmultiparas in our study accepted trial of labor often and achieved vaginal birth after cesarean without significantly increased morbidity. On the basis of our findings, it appears acceptable to offer grandmultiparas a trial of labor, as the overall occurrence of complications does not appear to exceed that of lower parity patients.

**152 PREDICTING SUCCESSFUL INDUCTION OF LABOR IN PATIENTS WITH PREVIOUS CESAREAN SECTION** JEFF CHAPA<sup>1</sup>, JUDITH HIBBARD<sup>1</sup>, NIHAL NACCASHA<sup>1</sup>, MAHMOUD ISMAIL<sup>1</sup>; <sup>1</sup>University of Chicago, Department of Obstetrics and Gynecology, Chicago, IL

**OBJECTIVE:** To investigate the effect of specific risk factors on the rate of successful induction of labor (IOL) among patients with previous cesarean section (C/S).

**STUDY DESIGN:** We reviewed medical records from all patients with history of prior C/S undergoing IOL at our institution from 1989-1997. Inclusion criteria were: 1) gestational age  $\geq 35$  wks, 2) singleton pregnancy, and 3) history of 1 or 2 prior C/S. Factors studied included history of prior vaginal delivery (VD), macrosomia (birthweight  $\geq 4000$ g), indication(s) for previous C/S, post-dates gestation ( $\geq 41$  wks), and advanced maternal age. Data were analyzed using univariate and multiple logistic analysis.

**RESULTS:** Of the 299 women who met criteria for entry into the study, 172 (57.5%) had successful VD. For each risk factor, relative risk (RR) and adjusted odds ratio (OR) for successful VD were calculated (Table).

**CONCLUSION:** Previous VD and non-recurrent indication for previous C/S are predictive of successful IOL among patients with prior C/S. Macrosomia and recurrent indication for previous C/S are associated with failed IOL and may be sufficient to warrant elective repeat C/S.

**Table**

	SUCCESS RATE	RR (FOR VD)	ADJUSTED OR
Prior VD	77/94 (81.9%)	1.77 (1.48-2.11)	5.25 (2.79-9.88)
No prior VD	95/205 (46.3%)		
Previous C/S	111/157 (70.7%)	1.64 (1.25-1.94)	2.78 (1.65-4.67)
(non-recurrent)			
Previous C/S (recurrent)	61/142 (43.0%)		
Macrosomia	12/35 (34.3%)	0.57 (0.35-0.90)	0.40 (0.17-0.93)
No macrosomia	160/264 (60.6%)		
EGA $\geq 41$ wks	38/84 (45.2%)	0.73 (0.56-0.94)	0.70 (0.39-1.26)
EGA < 41 wks	134/215 (62.3%)		
Maternal age $\geq 35$	18/37 (48.6%)	0.83 (0.59-1.17)	0.51 (0.23-1.11)
Maternal age < 35	154/262 (58.8%)		