141 **ABDOMINAL VERSUS VAGINAL CERCLAGE AFTER A PRIOR FAILED TRANSVAGINAL CERCLAGE: A SYSTEMATIC REVIEW** VEENA ZAVERI[1], FARIBA AGHAJAFARI[2], MARY HANNAH[3], K. AMANKWAH[4]; [1]Sunnybrook and Women's Health Sciences Centre, Toronto, Obstetrics and Gynecology, Liverpool; [2]Maternal and Infant Research Unit, Obstetrics and Gynaecology, Toronto, Ontario; [3]Maternal and Infant Research Unit, Obstetrics and Gynaecology, Toronto, Ontario; [4]University of Toronto, Obstetrics & Gynaecology, Toronto, Ontario

OBJECTIVE: To compare the outcomes of pregnancy following transabdominal cerclage (TAC) with transvaginal cerclage (TVC)in patients with a failed TVC during a prior pregnancy.

STUDY DESIGN: Medline and Embase were searched in English. We included studies which reported on perinatal and/or maternal outcomes in women having a TAC or a TVC placed at or prior to 20 weeks gestation, after having had a prior failed non emergent TVC in a previous pregnancy. We excluded those with cervical amputation or extremely short cervix as a transvaginal suture is not an option for these women due to technical difficulties. Two authors independently reviewed the articles to determine eligibility and abstracted the data. Discrepancies were resolved by consensus.

RESULTS: 14 studies met the inclusion criteria. 13 were case series (12 retrospective, 1 prospective) and one was a retrospective cohort study. In total, 157 women in the studies had a failed vaginal cerclage in a previous pregnancy; 117 had a subsequent TAC, 40 had a subsequent TVC. The observed proportion of outcomes in the two groups was compared descriptively but not statistically, since the obstetric history for the TAC cases and TVC cases was different (the obstetric history in the TAC group was worse than in the TVC group). The likelihood of perinatal death or delivery <24 weeks was 6.8% (95% CI 2.3%, 11.4%) following TAC and 10% (95% CI 0.7%, 19.3%) following TVC. The likelihood of serious operative complications following TAC was 7.7% (95% CI 2.9%, 12.5%). There were no serious operative complications following TVC.

CONCLUSION: TAC may be associated with a lower risk of perinatal death or delivery <24 weeks but it may be associated with a higher risk of serious operative complications. A multi-center RCT should be conducted to address this question.

142 **LONG TERM NICOTINE PATCH USE IN PREGNANCY: SAFETY AND EFFECTIVENESS** PAUL OGBURN JR[1], KIRK RAMIN[2], DARRELL SCHROEDER[3], RICHARD HURT[3], IVANA CROGHAN[4], KENNETH OFFORD[4], THOMAS MOYER[5]; [1]State University of New York at Stony Brook, Department of Ob/Gyn/Reproductive Medicine, Stony Brook, NY; [2]Mayo Clinic, Maternal-Fetal Medicine, Rochester, MN; [3]Mayo Clinic, Nicotine Research Center, Rochester, MN; [4]Mayo Clinic, Nicotine Research Center; [5]Mayo Clinic, Dept Laboratory Medicine and Pathology, Rochester, MN

OBJECTIVE: To evaluate intensive nicotine patch therapy for highly addicted pregnant smokers for the endpoints of: (1) fetal growth and wellbeing and (2) maternal abstinence from cigarettes.

STUDY DESIGN: Twenty-one pregnant women who continued to smoke more than 15 cigarettes/day into their third trimester in spite of physician recommendations were recruited to the study. Nicotine patch therapy (22 mg/24 hr) was initiated during the first day of a four day inpatient stay and continued for a total of 8 weeks. Subjects returned for weekly visits until delivery. Ultrasound evaluations for fetal weight and well-being, as well as neonatal conditions were recorded. The mothers were evaluated biochemically (using measured exhaled CO) at each visit and at delivery.

RESULTS: Fetal well-being with normal growth was seen on ultrasound and weekly NST. Gestational ages at delivery were 36.3 to 41.1 weeks; newborn weights were 2400-4400 gm (none less than the tenth percentile). Eight mothers were not smoking by time birth occurred (38%).

CONCLUSION: Cigarette smoking is associated with substantial risk for complications in pregnancy including preterm delivery and perinatal mortality. Nicotine replacement therapy (NRT) has been shown to be useful in nonpregnant patients. Concerns about the safety of NRT in pregnancy are addressed by our current results. Our rate of smoking abstinence at birth of 38% is much better than rates achieved by other published studies (which had abstinence rates of 4.9% to 31.9% for pregnant patients). We conclude that long term NRT in pregnancy is safe and effective and should be offered to pregnant women who can not otherwise stop smoking.

143 **MANAGEMENT OF PATIENTS WITH A PRIOR CLASSICAL CESAREAN: A DECISION ANALYSIS** NAOMI STOTLAND[1], LISA LIPSCHITZ[2], AARON CAUGHEY[3]; [1]University of California, San Francisco, Obstetrics, Gynecology and Repro Sciences, San Francisco, CA; [2]University of California, San Francisco, Obstetrics, Gynecology, and Repro Sciences, San Francisco, CA; [3]University of California, San Francisco, Obstetrics, Gynecology, and Repro Sciences, Daly City, CA

OBJECTIVE: To determine which strategy for managing patients with a prior classical cesarean leads to the best outcomes and quality-adjusted life years (QALYs).

STUDY DESIGN: A decision analytic model was designed comparing four schemes for a hypothetical cohort of 10,000 women at 36 weeks gestation: 1) delivery at 39 weeks; 2) delivery at 36 weeks without confirmation of fetal lung maturity (FLM); 3) amniocentesis at 36 weeks with delivery if mature and corticosteroids if immature; and 4) amniocentesis at 36 weeks with delivery if positive FLM and repeat testing if immature. The weekly risk of uterine rupture prior to the onset of labor was assumed to be uniform after 36 weeks. Utilities, risk of uterine rupture and sequelae, risk of RDS, sensitivity and specificity of FLM testing, and benefit of antenatal corticosteroids were estimated from the literature.

RESULTS: Given our assumptions, scheme #2 marginally provided the most maternal QALYs. All schemes varied by less than one QALY. Comparing scheme #1 to #2, it was determined that 27 cesareans have to be done at 36 weeks with 1.13 associated cases of RDS to avoid one uterine rupture. Upon sensitivity analysis, corticosteroids must reduce RDS by at least 62% for scheme #3 to surpass scheme #2 in total QALYs.

CONCLUSION: Existing strategies for managing patients with a prior classical scar produce similar maternal QALYs. 36-week delivery may be preferable, providing a lower risk of severe adverse outcomes and higher maternal quality of life.

Table

Perinatal outcomes by scheme

	RDS CASES/ 10,000	CEREBRAL PALSY CASES/ 10,000	PERINATAL DEATHS/ 10,000
1. 39-week delivery	6	13	115
2. 36-week delivery	420	0	0
3. FLM testing with corticosteroids	244	<1	2
4. Serial FLM testing	67	1	9

144 **DELIVERIES OF TWINS AFTER A PREVIOUS CESAREAN: A TWELVE-YEAR EXPERIENCE** EMMANUEL BUJOLD[1], ROBERT J. GAUTHIER[2], ANDREE SANSREGRET[3]; [1]Wayne State University, Obstetrics and Gynecology, Detroit, MI; [2]Sainte-Justine Hospital, Obstetrics and Gynecology, Montreal, Quebec; [3]Universite de Montreal, Obstetrics and Gynecology, Montreal, Quebec

OBJECTIVE: To compare maternal and neonatal morbidity between twin pregnancies having a trial of labor (TOL) and those having an elective cesarean after a previous cesarean section.

STUDY DESIGN: Charts of all twin deliveries >28 weeks with a history of previous cesarean section in our tertiary-care center between 1988 and 2000 were reviewed. Pregnancies complicated with IUGR, TTS, IUFD and congenital anomalies were excluded. We compared maternal and neonatal outcome in both groups. Chi-square, Fisher and Student's *t* tests were used for comparison between those who had a TOL (group 1) with those who had an elective cesarean (group 2).

RESULTS: Twenty-eight patients were included in group 1 and delivered 56 fetuses and were compared to 90 patients and 180 fetuses in group 2. Maternal age, gestational age and birth weight were comparable in both groups. 24 (86%) out of 28 patients delivered twin A and 22 (79%) delivered twin B. Comparisons included pH<7.0 (4% vs 0%, $P = .06$) 5-min Apgar less than 7 (7% vs 5%, $P = .37$), admission to NICU (30% vs 28%, $P = .71$), maternal fever post-partum (7% vs 13%, $P = .51$), a Hb decrease >2g/L (29% vs 19%, $P = .28$) and the mean hospital stay (4.0 ± 1.4 vs 5.7 ± 2.0, $P < .01$). There was no uterine rupture.

CONCLUSION: A trial of VBAC for twin pregnancies is a reasonable option in a selected population and it is associated with a shorter hospital stay.