

- 154 **IS PRIOR CESAREAN FOR RECURRING INDICATION A CONTRAINDICATION TO VBAC?** MOLLY HOUSER<sup>1</sup>, ALISON CAHILL<sup>1</sup>, DAVID STAMILIO<sup>1</sup>, ANTHONY ODIBO<sup>1</sup>, JEFFREY PEIPERT<sup>1</sup>, GEORGE MACONES<sup>1</sup>, <sup>1</sup>Washington University in St. Louis, St. Louis, Missouri

**OBJECTIVE:** To determine whether history of cesarean for a recurring indication is associated with increased rates of VBAC failure or major morbidity in those attempting VBAC.

**STUDY DESIGN:** This is a secondary analysis of data collected on women attempting VBAC with history of at least one prior cesarean delivery. Data was collected at 17 centers between 1995 and 2000. We identified women with prior cesarean for recurring indication (CPD, failed induction, N=5108) and compared this group to those who had a prior cesarean for any other indication (N=5337). We were interested in whether those with a recurring indication had higher rates of VBAC failure or major morbidity (rupture, operative injury, bladder injury). Bivariate and multivariate techniques were used to assess the association between indication for prior cesarean and clinically relevant outcomes.

**RESULTS:** In this data set, 13,706 attempted VBAC, and of those, 5,108 had a history of cesarean for a recurring indication.

**CONCLUSION:** In patients with a history of cesarean for recurring indication, increased risk of failure and major morbidity should be taken into account when counseling patients about VBAC. Still, the overall occurrence of major morbidity is very low, and patients with recurring indications have over a 60% chance of a successful VBAC.

Outcome	Recurring (%)	Non-Recurring (%)	Unadjusted RR	Adjusted OR
Failed VBAC	34.1	20.2	1.7 (1.6-1.8)	2.1 (1.9-2.2)
Composite morbidity	2.7	2.0	1.2 (1.0-1.3)	1.4 (1.1-1.8)
Uterine rupture	1.0	0.9	1.1 (0.8-1.7)	1.1 (0.8-1.4)
Major operative injury	1.3	0.9	1.5 (1.0-2.1)	1.4 (1.0-2.1)
Bladder injury	0.6	0.3	1.9 (1.1-3.4)	1.9 (1.1-3.5)

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- 155 **IMPROVEMENTS IN OBSTETRICAL OUTCOMES SINCE 1992** SINDHU SRINIVAS<sup>1</sup>, ANDREW EPSTEIN<sup>2</sup>, SEAN NICHOLSON<sup>3</sup>, JEPH HERRIN<sup>2</sup>, DAVID ASCH<sup>4</sup>, <sup>1</sup>University of Pennsylvania, OBGYN; Maternal and Child Health Research Program, Philadelphia, Pennsylvania, <sup>2</sup>Yale University, New Haven, Connecticut, <sup>3</sup>Cornell University, New York, <sup>4</sup>University of Pennsylvania, Medicine, Philadelphia, Pennsylvania

**OBJECTIVE:** Since cesarean deliveries (CD) have increased in recent years, we examined trends in risk-adjusted maternal complications among women undergoing CD and vaginal delivery (VD).

**STUDY DESIGN:** Using Florida and New York hospital discharge data from 1992-2006, we examined trends in a composite measure of major maternal complications, which included infection, hemorrhage and other major operative and thrombotic complications. We used logistic regression to adjust for differences in patient-level characteristics, including maternal age, race, medical co-morbidities and pregnancy related co-morbidities such as growth restriction, oligohydramnios, and chorioamnionitis.

**RESULTS:** Over 6 million deliveries were included. During the 14-year time period, the CD rate initially decreased from 24.7% in 1992 to 23% in 1996 and subsequently increased to 34.7% in 2006. The risk-adjusted rate of any major complication declined from 14.7% in 1992 to 10.7% in 2006 for all deliveries; from 14.4% to 11.6% for VD; and from 15.7% to 8.5% for CD. Among CDs, hemorrhage rates decreased from 7.7% in 1992 to 3.8% in 2001 and then increased to 4.9% in 2006. Among VD, this rate decreased from 4.7% to 3.6% in 2001 and stayed constant through 2006. During this same time period, the average number of co-morbidities increased from 0.65 to 0.93 for patients overall, from 0.43 to 0.58 for VD patients, and 1.34 to 1.59 for CD patients.

**CONCLUSION:** Major maternal complications have declined considerably over the past 14 years in Florida and New York among patients having CD and VD, and among deliveries overall. Concurrently, the average number of patient co-morbidities increased. The reasons for this considerable decline in complication rate are not known, but they have not been reported previously and reflect substantial improvements in maternal care.

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- 156 **REPEATED AMBULATORY ASSESSMENTS OF MATERNAL CORTISOL OVER A MULTIPLE-DAY PERIOD PREDICT LENGTH OF GESTATION AND BIRTH WEIGHT** SONJA ENTRINGER<sup>1</sup>, CLAUDIA BUSS<sup>1</sup>, JUDITH ANDERSEN<sup>1</sup>, ALEKSANDRA CHICZ-DEMET<sup>1</sup>, CURT SANDMAN<sup>1</sup>, PATHIK WADHWAN<sup>1</sup>, <sup>1</sup>University of California, Irvine, Irvine, California

**OBJECTIVE:** Empirical evidence suggests that high levels of prenatal stress exposure in pregnancy constitute an independent risk factor for adverse birth outcomes. Stress is known to activate the hypothalamic-pituitary-adrenal (HPA) axis, resulting in an increase in cortisol levels. However, most studies assess single measures of stress hormones, there is considerable variation in hormone levels, and one-time measures of stress hormones are inconsistently associated with adverse outcomes. The present study used a novel ecological momentary assessment protocol to investigate whether inter-individual differences in cortisol concentrations during pregnancy measured repeatedly over multiple days in women's natural, everyday settings were associated with length of gestation and birth weight.

**STUDY DESIGN:** Thirty-three pregnant women (N=16 at 14 ± 0.52 weeks' gestation, N=17 at 30 ± 0.42 weeks' gestation) collected 7 salivary cortisol samples per day over a consecutive 4-day period (2 weekdays + 2 weekend days) using electronic monitors to record time of collection. Hierarchical linear models were used to test the association between repeated measures of cortisol concentrations and gestational age at delivery and birth weight, controlling for time of collection and gestational age at assessment.

**RESULTS:** Higher cortisol concentrations over the four days were significantly associated with shorter gestational length as well as lower birth weight (p's < 0.001).

**CONCLUSION:** Considering the small sample size, these associations are promising and support the ecological validity of repeated ambulatory assessments of salivary cortisol and their ability to improve the prediction of adverse birth outcomes.

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- 157 **NEAR-TERM PREMATURE RUPTURE OF MEMBRANES: EXPECTANT MANAGEMENT COMPARED TO DELIVERY IN A COMMUNITY HOSPITAL** RUBY SHRESTHA<sup>1</sup>, RICHARD LATTA<sup>1</sup>, JULIO MATEUS<sup>1</sup>, COHEN JERRY<sup>1</sup>, <sup>1</sup>Abington Memorial Hospital, Abington, Pennsylvania

**OBJECTIVE:** To characterize neonatal and maternal morbidity rates of expectant management compared with a hospital policy of delivery of pregnancies complicated by near-term premature rupture of membranes (PROM).

**STUDY DESIGN:** Historical Case-Control study. Control patients (N=29) experienced PROM from 34 1/7 to 35 6/7 weeks between April 2002 and December 2004. Pregnancies with PROM were managed expectantly until at least 36 weeks gestation. Study patients (N=26) were from May 2005 to February 2008. The policy was established that delivery will be recommended without delay for PROM after 34 0/7 weeks in May 2005. The outcomes evaluated included neonatal mortality, composite major and minor neonatal morbidity, individual major and minor neonatal morbidity rates, maternal infection morbidity, and maternal and neonatal length of stay.

**RESULTS:** Neonates of the control group had lower rate of RDS (20.7% vs 52%), minor (27.6% vs 88%), major morbidities (0% vs 20%) and shorter length of neonatal stay (4 vs 9 days) (all p < 0.05). The control group had a trend towards a lower rate of chorioamnionitis 3.4% vs 8.0% (p=0.51), endometritis 0% vs 4% (p=1.00) and significantly lower cesarean section 20.7% vs 44% (p=0.02).

**CONCLUSION:** Our findings suggest that expectant management of near term pregnancies with PROM reduced the risk of RDS, neonatal major and minor morbidities and neonatal length of hospital stay at 34-35 weeks gestation without a significant difference in risk of chorioamnionitis and endometritis in a community hospital.

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