## 89 Neonatal respiratory morbidity and mode of delivery between 34+0 and 36+6 weeks of gestation

**Giuliana Simonazzi[1], Alessandra Curti[1], Elisa Moro[1], Andrea Pedrazzi[1], Tiziana Martina[1], Antonio Farina[1], Nicola Rizzo[1]**
[1]St. Orsola Malpighi Hospital, University of Bologna, Department of Obstetrics & Gynecology, Bologna, Italy

**OBJECTIVE:** To assess the impact of mode of delivery on respiratory morbidity among late-preterm neonates.

**STUDY DESIGN:** Singleton pregnancies complicated by premature rupture of membranes (PROM) between 34+0 and 36+6 weeks were studied retrospectively. Pregnancies with corticosteroid administration after 34+6 weeks were excluded. Patients were divided into cesarean section (CS) and vaginal delivery groups, matched 1:3 for gestational age. The primary outcome was the rate of respiratory distress syndrome (RDS). Logistic regression was performed to assess the risk of RDS within groups.

**RESULTS:** Between 2005 and 2012, 360 patients delivered between 34 and 36 weeks after premature rupture of membranes at St. Orsola-Malpighi Hospital, Bologna (Italy). In 90 cases elective caesarean section was performed for previous CS (n=50), breech presentation (n=31) or maternal medical indications (n=9). No difference was found for antenatal betamethasone within groups. The overall RDS rate was 15%, while it was 30% and 10% in case of CS and vaginal delivery, respectively (p-value 0.0001). CS seems to be a risk factor for RDS (OR 4.2, p-value 0,0001), as does earlier gestational age at delivery (OR 0.9, p-value 0,0001). Table 1 shows the median risks of RDS in the study population according to the logistic regression model.

**CONCLUSION:** After preterm PROM, CS is associated with a higher risk of neonatal RDS. This is more evident with increasing gestational age, when respiratory morbidity is thought to be less frequent.

### Median estimated risk of RDS

| | 34 weeks | 35 weeks | 36 weeks |
|---|---|---|---|
| CS (n=90) | 53% (50-61) | 38% (29-45) | 20% (16-27) |
| Vaginal delivery (n=270) | 28% (18-29) | 12% (10-15) | 6% (4-8) |

## 90 Oral misoprostol vs vaginal dinoprostone for labor induction in nulliparous women at term

**Allison Faucett[1], Kay Daniels[1], Yasser El-Sayed[2], Henry Lee[3], Yair Blumenfeld[2]**
[1]Stanford University School of Medicine, Obstetrics & Gynecology, Palo Alto, CA, [2]Stanford University School of Medicine, Obstetrics & Gynecology, Division of Maternal-Fetal Medicine, Palo Alto, CA, [3]University of California, San Francisco, Pediatrics, Division of Neonatology, San Francisco, CA

**OBJECTIVE:** To compare the effectiveness and safety of oral misoprostol to the vaginal dinoprostone insert for the induction of labor of nulliparous women at term.

**STUDY DESIGN:** Records of women admitted to Lucile Packard Children's Hospital from January 2008 to December 2010 for labor induction with an unfavorable cervix were reviewed. Patients receiving oral misoprostol as the primary induction agent were compared with those receiving vaginal dinoprostone. Multiparous patients and those with multiple or preterm gestations, membrane rupture, or use of other primary induction agents were excluded. The primary outcome was defined as time interval from administration of the primary induction agent to vaginal delivery. Secondary outcomes included vaginal delivery in less than 24 hours, use of secondary ripening or augmentation agents, and maternal and fetal outcomes.

**RESULTS:** 1016 patient records were reviewed. 680 met inclusion criteria: 483 (71%) received vaginal dinoprostone and 197 (29%) received oral misoprostol. Patients receiving oral misoprostol were more likely to be Hispanic (40% vs. 35%, p=0.04), and to have greater cervical dilation on admission (mean = 0.63 cm vs. 0.98 cm, p<0.001). Time interval from induction to vaginal delivery was shorter with oral misoprostol (27.2 vs. 21.9 hours, p< 0.001). This difference remained significant when controlling for cervical dilation, regional anesthesia, and birthweight. After risk adjustment, the odds of vaginal delivery in less than 24 hours was two times greater with oral misoprostol (OR 2.26, CI=1.42-3.58). Patients receiving oral misoprostol were more likely to deliver vaginally (71% vs. 63%, p=0.04); however no difference was seen after adjusting for possible confounders. There were no differences in any of the secondary maternal or fetal outcomes.

**CONCLUSION:** In nulliparous women, oral misoprostol as the primary cervical ripening agent resulted in a shorter interval to vaginal delivery.

## 91 Second trimester cervical length and persistence of placenta previa in the third trimester

**Amanda Trudell[1], Molly Stout[1], Alison Cahill[1], Anthony Odibo[1], George Macones[1], Methodius Tuuli[1]**
[1]Washington University in St. Louis, Obstetrics and Gynecology, St. Louis, MO

**OBJECTIVE:** Transvaginal ultrasound prior to 20 weeks identifies placenta previa in 1/20 pregnancies, but only about 10% persist in the third trimester. Prior studies have associated decreased cervical length (CL) in the setting of placenta previa with adverse obstetric outcomes including maternal hemorrhage, preterm birth, emergency cesarean and abnormally adherent placenta. However, the association between CL and persistence of placenta previa has not been evaluated. We sought to test the hypothesis that cervical shortening with associated development of the lower uterine segment in the setting of placenta previa is associated with impaired placental migration away from the internal cervical os, and persistent placenta previa.

**STUDY DESIGN:** A retrospective cohort study of singleton pregnancies presenting for routine fetal anatomic survey (17w0d- 23w6d). Women with multiple gestations, major uterine anomalies and those without third trimester follow up ultrasound were excluded. The primary outcome was persistence of placenta previa on ultrasound in the third trimester (28w0d-36w6d). CL at the time of the anatomic survey in women with persistence and resolution of placenta previa in the third trimester were compared. The predictive value of second trimester CL for persistent placenta previa in the third trimester was assessed using the receiver-operating characteristics (ROC) curve.

**RESULTS:** 294 women diagnosed with placenta previa at anatomic survey in the second trimester met inclusion criteria. Of these, 16 (5.4%) had placenta previa on follow-up ultrasound in the third trimester. CL was not significantly different in women with persistent placenta previa compared to those with resolution (45.1±8.8mm versus 43.4± 8.2mm, p=0.42). The area under the ROC was 0.58, and no CL cutoff was significantly associated with persistence of placenta previa (Table).

**CONCLUSION:** These data suggest that second trimester CL is not predictive of persistence of placenta previa in the third trimester.

| Cervical length cutoff | Persistent Previa (n=16) | Resolved Previa (n=278) | p-value |
|---|---|---|---|
| <30mm | 1 (6.3%) | 10 (3.6%) | 0.47 |
| <40mm | 3 (18.8%) | 88 (31.6%) | 0.41 |
| <50mm | 14 (87.5%) | 219 (78.8%) | 0.54 |

## 92 Placental pathology, first-trimester biomarkers, and adverse pregnancy outcomes (APO)

**Amanda Spitalnik[1], Kalyani Patel[2], Linda Odibo[1], Phyllis Huettner[2], Anthony Odibo[1]**
[1]Washington University in St. Louis, Obstetrics and Gynecology, St. Louis, MO, [2]Washington University in St. Louis, Pathology, St. Louis, MO

**OBJECTIVE:** To investigate the association of placental pathology (Path) findings in pregnancies with APO and first-trimester biomarkers.

**STUDY DESIGN:** This is a prospective study of first-trimester screening for APO. Path were reviewed by two perinatal pathologists blinded to