

**795 CHORIOAMNIONITIS IN PRETERM DELIVERY: DOES CLINICAL DIAGNOSIS INDICATE WORSE CLINICAL OUTCOME?** RANDI TURKEWITZ<sup>1</sup>, REINALDO FIGUEROA<sup>1</sup>, DANIEL KIEFFER<sup>1</sup>, PAUL OGBURN<sup>1</sup>, CYNTHIA KAPLAN<sup>1</sup>, CECILIA AVILA<sup>1</sup>, VANDY WIENCEK<sup>1</sup>, J. QUIRK<sup>1</sup>, <sup>1</sup>State University of New York at Stony Brook, Stony Brook, New York

**OBJECTIVE:** To test the hypothesis that premature neonates born to mothers with clinical chorioamnionitis (CCA) plus histological chorioamnionitis (HCA) have worse outcomes than those born to mothers with histological chorioamnionitis only.

**STUDY DESIGN:** A retrospective chart review was conducted from January 1, 1995 until January 1, 2007 of mothers who delivered neonates between 23 weeks and 32 6/7 weeks gestation with a pathological diagnosis of HCA. 363 deliveries met these criteria. However, after excluding neonates with known structural malformations, chromosomal abnormalities and multiple gestations, a total of 255 deliveries were examined. Patient groupings were created based on the presence (n=130) or absence (n=125) of CCA. Neonatal complications, including respiratory distress syndrome, necrotizing enterocolitis, bronchopulmonary dysplasia, patent ductus arteriosus, intraventricular hemorrhage, early sepsis, periventricular leukomalacia, and death were compared between the two groups using the Fischer exact test. Average maternal age, gestational age, birth weight, mode of delivery and gender were also examined.

**RESULTS:** Average gestational age at the time of delivery was the only statistically significant variable between the HCA+CCA group and the HCA-CCA group (26.74 vs. 27.48, p=0.0333). Multivariable logistic regression models indicated a significant relationship between gestational age at time of delivery and survival (p<0.0001). The diagnosis of CCA did not significantly impact neonatal mortality when controlling for gestational age, gender and mode of delivery.

**CONCLUSION:** The clinical diagnosis of chorioamnionitis in prematurely delivered neonates with histological chorioamnionitis is not associated with increased neonatal complications or mortality when controlled for gestational age. Our results suggest that making the clinical diagnosis of chorioamnionitis could lead to earlier delivery and paradoxical iatrogenic neonatal morbidity and mortality.

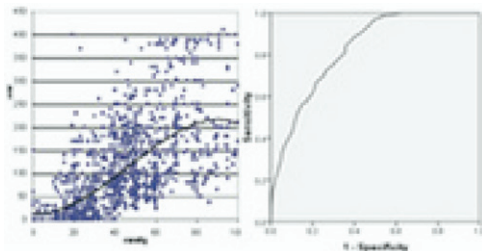
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**796 NON-INVASIVE DETECTION OF SIGNIFICANT UTERINE ACTIVITY** JENA MILLER<sup>1</sup>, KAREN TY-TORREDES<sup>1</sup>, MARA SCHINDEL<sup>1</sup>, CHRISTOPHER HARMAN<sup>1</sup>, AHMET BASCHAT<sup>1</sup>, <sup>1</sup>University of Maryland, Baltimore, Department of OB/GYN and Reproductive Sciences, Baltimore, Maryland

**OBJECTIVE:** Intrapartum monitoring with an in-dwelling intrauterine pressure catheter (IUPC) directly measures contraction frequency and strength. Non-invasive uterine electromyography (EMG) measures electric potentials of myometrial activity in millivolts (mV) on the maternal skin. We compared methods, to determine if uterine EMG mirrors intrauterine pressure sufficiently accurately to depict uterine activity with clinical significance.

**STUDY DESIGN:** Prospective observational study of women monitored simultaneously by IUPC and AN24 (Monica Healthcare, Nottingham, UK). Applying strict quality criteria to IUPC tracings, pressure (mmHg) and millivoltage (mV) measurements were taken at 5 standardized time points (onset, upstroke, peak, downstroke, baseline) on paired IUPC/AN24 tracings. Measurement correlation, test agreement for contractions and prediction of contraction strength >50 mmHg (Braxton Hicks contractions) were assessed.

**RESULTS:** 297 IUPC contractions (17 laboring women) met quality criteria. The AN24 detected 5 additional contractions not shown by IUPC. Pressure and millivoltage correlated strongly (1509 paired measurements) (Pearson 0.64, with a 3rd order polynomial regression (F=628.170, r 0.455, all p<0.0001 -GRAPH). The relationship between methods is complex, as correlation varies with contraction strength: <50 mmHg (Pearson 0.531, linear fit F=396.829, r2 0.28) and >50 mmHg (Pearson 0.333, linear fit F=61.784, r2 0.11, all p<0.0001). At a cutoff of 99.0 mV, AN24 detects contractions more than Braxton-Hicks intensity with 70.5% sensitivity, 74.5% specificity (ROC AUC 0.826 95%CI 0.806-0.857, p<0.0001).



**CONCLUSION:** The AN24 is a non-invasive monitor that can distinguish meaningful contractions from Braxton-Hicks tightenings.

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**797 DOES MATERNAL WEIGHT GAIN IN GESTATIONAL DIABETES AFFECT FETAL GROWTH?** LISA SIMMONDS<sup>1</sup>, JANICE TEIXEIRA<sup>1</sup>, LOIS BRUSTMAN<sup>1</sup>, KAREN PLAYFORTH<sup>1</sup>, CAROLYN SALAFIA<sup>1</sup>, BARAK ROSEN<sup>1</sup>, <sup>1</sup>St. Luke's Roosevelt Hospital Center, Obstetrics and Gynecology, New York, New York

**OBJECTIVE:** A key component in the management of GDM is diet therapy and limitation of caloric intake. However, adherence to a strict diet with good glycemic control often results in limited third trimester weight gain and many women fear that poor weight gain in pregnancy may compromise the health of the fetus. The purpose of this study was to test the hypothesis that limited third trimester weight gain in GDM is associated with a decreased risk of LGA without increasing the risk of SGA.

**STUDY DESIGN:** A retrospective analysis of data on 230 women with GDM who were managed in our Diabetes in Pregnancy Program in 2007 was performed. Good glycemic control was defined as >80% of blood glucose values within target limits and mean blood glucose <105 mg/dL. Total and weekly weight gain were determined for the duration of GDM management to the time of delivery. Infant birth weight (BW) was categorized as a percentile for gestational age at delivery and patients were stratified by pre-pregnancy BMI. Statistical analysis included one way ANOVA, chi-square, Fisher's exact test and Student's t-test.

**RESULTS:** Maternal BMI was not significantly associated with weight gain in pregnancy or with BW percentile. Total and weekly weight gain during GDM treatment were positively associated with BW percentile. Limited (<0.5 pounds per week) maternal weight gain during GDM treatment was not associated with an increased risk of SGA in any BMI category. Poor glycemic control was significantly associated with risk of LGA. Multiple logistic regression analysis that included weight gain, BMI and glycemic control revealed that weight gain alone was significantly associated with BW percentile.

**CONCLUSION:** Limited weight gain in women with GDM is associated with a decreased risk of excessive fetal growth and does not increase the risk of SGA. We speculate that stunted weight gain in these women reflects improved metabolic control that modifies the process of diabetic fetopathy.

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**798 THE INCIDENCE OF ECLAMPSIA IN A SINGLE DEFINED POPULATION WITH A SELECTIVE USE OF MAGNESIUM SULFATE** REEM AKKAWI<sup>1</sup>, ETAOIN KENT<sup>1</sup>, MICHAEL GEARY<sup>2</sup>, MICHAEL ROBSON<sup>3</sup>, CHRIS FITZPATRICK<sup>4</sup>, FERGAL D. MALONE<sup>1</sup>, <sup>1</sup>Royal College of Surgeons in Ireland, Obstetrics & Gynaecology, Dublin, Ireland, <sup>2</sup>Rotunda Hospital, Dublin, Ireland, <sup>3</sup>National Maternity Hospital, Dublin, Ireland, <sup>4</sup>Coombe Women's Hospital, Dublin, Ireland, Ireland

**OBJECTIVE:** To describe the incidence, and mortality from, eclampsia over the past 30 years in a single large urban population, where a selective policy of magnesium sulfate use has been in place.

**STUDY DESIGN:** A detailed report of all pregnancies delivered in the Greater Dublin area from 1977 to 2006, inclusive, was reviewed for incidence and mortality from eclampsia. Almost all pregnancies in this geographic area are managed at one of 3 major maternity hospitals. All have operated a relatively restrictive policy to MgSO4 prophylaxis, in which MgSO4 is reserved for patients with criteria for severe preeclampsia or who have already had an eclamptic seizure.

**RESULTS:** During the 30 year study period there were a total of 626,929 deliveries, amongst which there were 247 cases of eclampsia (3.9 per 10,000 deliveries) and 4 maternal deaths (0.63 per 100,000 deliveries) directly attributed to eclampsia. Comparing the study decades 1977-1986 and 1997-2006 the incidence of eclampsia decreased significantly from 5.4/10,000 to 3.5/10,000 (p= 0.01)

**CONCLUSION:** Rates of eclampsia in Ireland have remained low over the past 30 years, and compare favourably with quoted incidences in other countries (5-7 per 10,000 deliveries in US). These low, and declining, rates have occurred despite a very selective policy with regard to administration of MgSO4 in the setting of preeclampsia. Policies based on Administration of MgSO4 for seizure prophylaxis to all patients with mild preeclampsia may not be necessary to achieve good obstetric outcomes.

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