CHORIOAMNIONITIS IN PRETERM DELIVERY: DOES CLINICAL DIAGNOSIS INDICATE WORSE CLINICAL OUTCOME? RASHI TURKOWITZ1, RENAILO FIGUEROA1, DANIEL KIEFER1, PAUL OBURU1, CYNTHIA KAPLAN1, CECILIA AVILA1, VANDY WIECZK1, J. QUIRK1. 1State 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.

RESULTS: Average gestational 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 = 0.0033). 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.

THE INCIDENCE OF ECLAMPSIA IN A SINGLE DEFINED POPULATION WITH A SELECTIVE USE OF MAGNESIUM SULFATE REEM AAKAW1, ETAIJ KENT1, MICHAEL GERRY1, MICHAEL ROBINSON1, CHRIS FITZPATRICK1, PERGAL D. MALONE2. 1Royal College of Surgeons in Ireland, Obstetrics & Gynaecology, Dublin, Ireland, Ireland, 2Rotunda Hospital, Dublin, Ireland, Ireland, 3National Maternity Hospital, Dublin, Ireland, Ireland, 4Coonbe 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 sulphate (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 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 pre-eclampsia. Policies based on Administration of MgSO4 for seizure prophylaxis to all patients with mild pre eclampsia may not be necessary to achieve good obstetric outcomes.

NON-INVASIVE DETECTION OF SIGNIFICANT UTERINE ACTIVITY JENA MILLER1, KAREN TY-TORREYES1, MARY SCHNIDEL1, CHRISTOPHER HARAM1, AMIT BASCH1. 1University 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) from paired IUPC/AN24 tracings. Measurement correlation, test agreement for contractions and prediction of contraction strength were computed.

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^2 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, r 0.28) and >50 mmHg (Pearson 0.333, linear fit F=61.784, r 0.11, all p<0.0001). At a cutoff of 99.0 mV, AN24 detects contractions more than Braxton-Hicks intensity with 70.3% 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.