

245 A DECREASE IN POSTDATE PREGNANCIES IS AN ADDITIONAL BENEFIT OF FIRST TRIMESTER SCREENING FOR ANEUPLOIDY RADEK BUKOWSKI¹, GEORGE SAAD¹, FERGAL MALONE², GARY HANKINS³, MARY D'ALTON⁴; ¹University of Texas Medical Branch, Obstetrics and Gynecology, Galveston, TX; ²Columbia University, Obstetrics and Gynecology, New York, NY; ³University of Texas Medical Branch at Galveston, Obstetrics & Gynecology, Galveston, TX; ⁴Columbia University, Obstetrics & Gynecology, New York, NY

OBJECTIVE: Introduction of ultrasound-based 1st trimester screening for aneuploidy would result in routine use of crown-rump length measurement (CRL) for pregnancy dating. The objective of this study was to determine the effect of pregnancy dating by CRL measurement as part of aneuploidy screening on the ascertainment of postdate and preterm pregnancies requiring intervention.

STUDY DESIGN: Study population consisted of 3588 pregnancies with known LMP undergoing ultrasound examination at 104/7 to 14 weeks as a part of a multicenter trial of First And Second Trimester Evaluation for Aneuploidy (FASTER). In each patient, gestational age at delivery was calculated using LMP (GADLMP) and CRL (GADCRL). Patients were divided into dichotomous GA clusters (more or less than 34, more or less than 41, or more or less than 42 weeks). Proportions of patients in each cluster were determined for GADLMP and GADCRL. Contingency table was used for statistical analysis.

RESULTS: Dating using CRL did not significantly affect the proportion of pregnancies <34 weeks compared with LMP dating (1.8 vs 1.5%; RR [95% CI] = 1.15 [0.8-1.6]; *P* = .5). However, the proportion of pregnancies considered ≥41 weeks (8.2 vs 22.1%; RR [95% CI] = 0.37 [0.33-0.4]; *P* < .0001), as well as ≥42 weeks (1.6 vs 12.7%; RR [95% CI] = 0.13 [0.1-0.2]; *P* < .0001) at birth was significantly lower when dated by CRL compared with LMP. When CRL was used for dating, the relative risk reduction in pregnancies ≥41 weeks and ≥42 weeks was 61% and 87%, respectively.

CONCLUSION: Dating by CRL at the time of first trimester aneuploidy screening would result in approximately 8 fold decrease in pregnancies at or beyond 42 weeks and 3 fold decrease in pregnancies at or beyond 41 weeks, without a concomitant increase in pregnancies considered <34 weeks at birth. A decrease in pregnancies needing monitoring and/or induction may be an added benefit of ultrasound-based first trimester aneuploidy screening. (NIH R01 HD38652.)

247 DOES MAGNESIUM SULFATE EXPOSURE DECREASE THE INCIDENCE OF NECROTIZING ENTEROCOLITIS? ELYSIA MOSCHOS¹, KEVIN MAGEE²; ¹Baylor University Medical Center, Obstetrics and Gynecology, Dallas, TX; ²Perinatal Associates of Texas, Dallas, TX

OBJECTIVE: To determine whether in utero exposure to magnesium sulfate decreases the incidence of necrotizing enterocolitis (NEC).

STUDY DESIGN: All necrotizing enterocolitis cases over a 2-year period were compared to two controls matched for gestational age. Excluded were infants with structural or chromosomal anomalies. Statistical analysis included the univariate tests of 2 sample t-test for continuous data, chi-square and Fisher's exact test for categorical data, and stepwise logistic regression for multivariate analysis.

RESULTS: 25 study neonates were matched to 50 controls. No statistically significant differences were noted between the groups when comparing maternal and neonatal demographics. Furthermore, a comparison of clinical outcomes between the two groups noted no difference with respect to the incidence of neonatal intraventricular hemorrhage, respiratory distress syndrome, retinopathy of prematurity, patent ductus arteriosus, shock, acidosis and survival. Significant differences were detected in the incidence of sepsis (NEC group 68% v control group 32% with a *P* value of .006), antenatal antibiotic therapy (NEC group 48% v control group 76% with a *P* value of .020), breastfeeding (NEC group 10% v control group 89% with a *P* value of .019), and magnesium sulfate exposure (NEC group 28% v control group 58% with a *P* value of .016). Logistic regression analysis confirmed the association between the lack of magnesium sulfate exposure and NEC, with an odds ratio of 4 (CI = 1.367 to 12.743).

CONCLUSION: Our study demonstrated that the in utero exposure to magnesium sulfate was associated with a decreased incidence of necrotizing enterocolitis.

246 THE EFFECT OF BACTERIAL VAGINOSIS ON RESPONSE TO TOCOLYTIC THERAPY WHITNEY JAMIE¹, RODNEY EDWARDS¹, PATRICK DUFF¹; ¹University of Florida, Obstetrics and Gynecology, Gainesville, FL

OBJECTIVE: To evaluate the effect of bacterial vaginosis on the success of tocolytic therapy.

STUDY DESIGN: An historical cohort study of all women admitted January 1, 1995-March 31, 1999 to Shands Hospital at the University of Florida with a diagnosis of preterm labor was performed. Inclusion criteria were: 22-34 weeks gestation, tocolytic therapy initiated with magnesium sulfate, intact membranes, singleton gestation, cervical dilation >1 but <6 cm, and a wet prep at admission for bacterial vaginosis (BV). Women with BV were treated with metronidazole, 250 mg orally thrice daily for 7 days. The primary outcome variable was tocolysis-to-delivery interval. We also evaluated other maternal and neonatal outcomes. Chi-square, Fisher's exact, and the unpaired, 2-tailed t-test were used, as appropriate.

RESULTS: The cohort consisted of a total of 99 women. Of these women, 21 had a positive (+) and 78 had a negative (-) test for BV. For the BV+ and BV- groups, respectively, the mean ages were 20 and 23 years (*P* = .01) and the proportions of African-Americans were 67% and 36% (*P* = .04). Mean tocolysis-to-delivery intervals were 12.4 and 10.2 days (*P* = .49). Gestational ages at admission were 28.3 and 30.7 weeks in the BV+ and BV- groups, respectively (*P* = .02). Similarly, gestational ages at delivery were 29.7 and 31.8 weeks (*P* = .04). Respiratory distress syndrome occurred in 52% of infants in the BV+ group, compared to 26% in the BV- group (*P* = .02). Two neonatal deaths occurred; both infants were in the BV+ group (*P* = .04). All other outcomes evaluated were similar between the groups.

CONCLUSION: If treated, BV diagnosed at the time of admission for preterm labor does not affect the tocolysis-to-delivery interval. Women in preterm labor who have BV are more likely to be younger and African-American. They also tend to present and deliver at earlier gestational ages, leading to an increased frequency of neonatal complications.

248 THE CLINICAL AND COST EFFECTIVENESS OF NIFEDIPINE VERSUS TERBUTALINE ALFRED FLEMING¹, ROBERT BONEBRAKE¹, NIKI ISTWAN², DEBBIE JACQUES², SUZANNE COLEMAN², GARY STANZIANO²; ¹Creighton University, Dept. of Ob/Gyn, Omaha, NE; ²Matria Healthcare, Clinical Research Dept., Marietta, GA

OBJECTIVE: To compare the clinical and cost-effectiveness of treating recurrent preterm labor (RPTL) with nifedipine vs. continuous subcutaneous terbutaline (SQT).

STUDY DESIGN: We identified, from a database, women with singleton gestations enrolled for perinatal home care services who were prescribed nifedipine for tocolysis following an episode of preterm labor. Included in this analysis were women with RPTL requiring hospital evaluation at <34 weeks' gestation. Women remaining on nifedipine following RPTL (NIF group) were matched 1:1 to women with change in therapy to SQT (SQT group) by gestational age (GA) at RPTL. A standardized cost model (US \$) was applied to compare costs incurred for antepartum hospital (AH) days, nursery, and maternal outpatient (OP) charges occurring after RPTL.

RESULTS: 142 matched pairs were analyzed. GA at initial PTL was similar between NIF and SQT groups (27.9 ± 3.1 vs. 27.6 ± 3.3, *P* = .256). GA at RPTL (matched variable) was 30.4 ± 2.6 weeks. 59.1% of women in the NIF group vs. 52.1% in the SQT group delivered preterm (*P* = .268).

CONCLUSION: Treating RPTL with SQT vs. nifedipine resulted in a later GA at delivery and improved neonatal outcomes. SQT appears to be a cost-effective treatment for RPTL.

Table
Outcome comparison between groups

	NIF N = 142	SQT N = 142	PVALUE
<35 GAD	37.3%	19.7%	<.001
NICU admits	43.7%	23.2%	.001
Nursery cost	19,549 ± 34,480	6541 ± 16,878	<.001
AH cost ¹	5430 ± 8672	5498 ± 8489	.979
OP cost ¹	1799 ± 1388	7885 ± 4340	<.001
Cost/pregnancy	26,778 ± 35,988	19,833 ± 18,144	.015

¹After RPTL.