190 EXPRESSION OF AUTISM-ASSOCIATED GENES IN INTRAUTERINE GROWTH RESTRICTION MORGAN PELTIER[1], OSKAR KIZHNER[1], WENDY KINZLER[2], [1]University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, Department of Obstetrics, Gynecology and Reproductive Sciences, New Brunswick, New Jersey, [2]Winthrop University Hospital, Department of Obstetrics and Gynecology, Mineola, New York

OBJECTIVE: Autism spectrum disorders are marked by delays in the development of social and language skills in children by 3 years of age. Previous epidemiological studies have reported an association between decreased fetal growth and increased risk for autism. Our objective was to determine if IUGR causes changes in the expression of genes in the fetal brain known to be associated with autism.

STUDY DESIGN: Timed-pregnant Sprauge-Dawley rats were fed either ***ad libidum*** (n=5) or at 50% caloric restriction (n=5) beginning at gestational day (gd) 10. Dams were euthanized on gd 21 and fetal brains harvested and stored at −70 °C. Expression of IL-1β, TNF-α, IL-6, Reelin, PTEN, SHANK3, HGF, BDNF, and PCP-2 was evaluated for 3 pups from each litter by real-time RT-PCR and normalized to GAPDH expression.

RESULTS: Gene expression for HGF was significantly decreased in the brains of fetuses harvested from food-restricted mothers (P=0.043). However, no differences in Reelin, PTEN, BDNF, SHANK3, PCP-2, IL-1β, TNF-α nor IL-6 was detected.

CONCLUSION: Experimental fetal growth restriction decreases the expression of HGF in the fetal brain. Since low HGF has been found in human studies to be associated with high-functioning autism, there may be a link between IUGR, HGF and ASD

0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.217

191 UTERINE ELECTROMYOGRAPHY DURING SPONTANEOUS AND ABNORMAL LABOR CHRISTINE FARINELLI[1], ODED LANGER[2], KAREN PLAYFORTH[2], GAL BEN DAVID[3], ILAN CALDERON[3], [1]St. Luke's Roosevelt Hospital Center, Bronx, New York, [2]St Luke's Roosevelt Hospital Center, New York, New York, [3]Bnai Zion Medical Center, Obstetrics and Gynecology, Haifa, Israel, Israel

OBJECTIVE: to utilize non-invasive transabdominal uterine EMG monitoring via myometrial electrical activity in order to differentiate between spontaneous and abnormal labor.

STUDY DESIGN: In a prospective double-blind study, electrical uterine myography (EUM) was measured in 63 women in active labor. Patients were classified into spontaneous or abnormal labor (based on Friedman's labor curve). EUM, pitocin dose, and cervical characteristics were measured for 20 minutes at diagnosis and at two-hour intervals thereafter. The EUM system is comprised of a multi-channel surface electromyogram operative that senses electromyographic activity, a three-dimensional position sensor, and a personal computer. Data were sent for analysis offsite to an individual blinded to the clinical data.

RESULTS: Sixty-three patients participated in the study (37 with abnormal labor and 26 controls). The study revealed: (1) during longitudinal analysis of patients with labor abnormalities in active phase, the electrical uterine activity increased after the administration of pitocin (480.9 ± 122 vs. 580.9 ± 123; p=0.0008); (2) the uterine electrical activity increased during active phase in spontaneous laboring patients (RMS1: 464.5 ± 112; RMS2: 509.1 ± 121 RMS3: 532.8 ± 118.7, p=0.04); (3) analysis of the electrical uterine activity of patients in spontaneous labor vs. those receiving pitocin augmentation was non significant (509.1 ± 121 vs. 513.8 ± 117; 532.8 ± 118 vs. 551.3 ± 114, respectively); (4) evaluation of the cervix at 6 and 8 cm showed significant increase in the dose of pitocin (7 vs. 10, p value 0.02) with similar electrical uterine activity (RMS 580.9 ± 37.0 vs. 572.5 ± 41.8).

CONCLUSION: Our data suggests comparable electrical uterine activity occurs in both spontaneous and augmented laboring patients. However, our data further suggests that similar uterine activity in these patients can be achieved with lower doses of pitocin.

0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.218

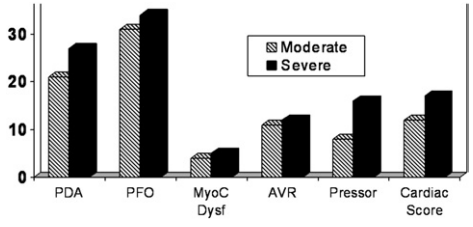
192 CARDIOVASCULAR TRANSITION TO EXTRAUTERINE LIFE IN FETAL GROWTH RESTRICTION (FGR) SIFA TURAN[1], OZHAN TURAN[1], MUBADDA SALIM[2], CHRISTOPHER HARMAN[1], AHMET BASCHAT[1], [1]University of Maryland, Baltimore, Department of OB/GYN and Reproductive Sciences, Baltimore, Maryland, [2]University of Maryland, Baltimore, Department of Pediatric Cardiology, Baltimore, Maryland

OBJECTIVE: Test the hypothesis that stages of fetal cardiovascular compromise in FGR reflect severity of neonatal circulatory maladaptation.

STUDY DESIGN: FGR cases (elevated umbilical artery pulsatility index (UA-PI), abdominal circumference <5%ile) had UA, middle cerebral artery (MCA) and ductus venosus (DV) Doppler. FGR cardiovascular compromise was grouped: MODERATE (positive or absent UA end-diastolic velocity (EDV) +/− low MCA-PI) or SEVERE (reverse UA-EDV +/− high DV-PI). Neonatal echo tested shunt dynamics and flow in patent ductus arteriosus (PDA) +/− patent foramen ovale (PFO) and atrioventricular valve regurgitation (AVR), myocardial contractility and pressor requirement. Composite Poor Cardiac Score, was the sum of these (score 0-5). We compared neonatal echo results in FGR stages.

RESULTS: Of 98 cases, MODERATE (48, 49%) and SEVERE (50, 51%) had different gestational age (GA, 31 v 29 w) and birthweight (BW, 1053 v 690g, p<0.001 for both). Day 2 neonatal echo showed PDA in 54 (55.1%), PFO in 65 (66.3%), AVR in 23 (23.5%), reduced cardiac contractility in 9 (9.2%).24 (24.5%) needed pressor support and 29 (27%) had composite cardiac score of 3 or more. FIGURE shows trends in worst cases favor SEVERE group, but no outcomes differed significantly. All babies were very premature and very small, yielding small GA differences in right/left shunt (p<.001) and pressor use (p<0.0001).All babies with poor cardiac score 4 or 5 were <30 weeks and <1.0 Kg.

CONCLUSION: In preterm FGR babies, cardiovascular compromise is common. While they may be graded in severity according to their fetal status, small fetuses with high placental resistance are all at risk and all merit early detailed neonatal echocardiographic monitoring to assess high pulmonary resistance.



0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.219

193 BETTER PATIENT SELECTION CRITERIA IMPROVES VBAC SUCCESS RATE HEMANT SATPATHY[1], ALFRED FLEMING[2], MAUREEN FLEMING[3], [1]American College of Obstetricians and Gynecologists, Omaha, Nebraska, [2]Creighton University, Omaha, Nebraska, [3]CUMC, OMAHA, Nebraska

OBJECTIVE: In the late 1980's the number of births by cesarean sections in the United States approached nearly 25%. To decrease the number of cesareans performed, more physicians began to offer Vaginal Birth After Cesarean (VBAC). As the number of VBAC increased, so did the complications associated with this method of delivery. In 2004 the American College of Obstetrics and Gynecology (ACOG) published a practice bulletin to help physicians identify patients who were appropriate candidates for VBAC trial. The purpose of this study was to analyze the impact of ACOG recommendations on the number of women attempting VBAC and its success rate.

STUDY DESIGN: This was a retrospective study done at Creighton University Medica Center, Omaha. Charts of the 1,238 patients who were eligible for VBAC from 1999 to 2006 were reviewed. As the ACOG practice bulletin was published in 2004, this study was designed to compare the success rate of VBAC and the number of VBAC attempted before and after the guidelines were introduced as the primary and secondary outcome respectively.

RESULTS: Prior to 2004 294 women attempted VBAC. Out of them 204 successfully delivered vaginally. Whereas between 2004 and 2006 124 women attmpted VBAC and 104 were successful. Overall percent success was 69.39% before 2004 compared to 83.87% after it. In the second part of the study, of 543 women who were eligible for VBAC between 1999 and 2003 294 did so. Similarly out of 277 women who were eligible for VBAC between 2004 and 2006 124 attempted. Thus, there was decrease in the percentage from 54.14% to 44.77% in the number of women attempted VBAC out of those eligible after the intorduction of the ACOG practice bulletin.

CONCLUSION: This study showed a decrease in the number of pregnant women attempting VBAC while increasing the likelihood of its success follwing the implementation of the better patient selection criteria for VBAC.

0002-9378/$ - see front matter
doi:10.1016/j.ajog.2008.09.220