576 DETERMINANTS OF INTACT SURVIVAL IN EARLY-ONSET IUGR DELIVERED <32 WEEKS AHMET BASCHAT1, HENRY GALAN2, AMARNATH BIHDE3, CHRISTOPH BERG1, BASKARAN THILAGANATHAN2, MICHELLE KUSH1, DICK OEPKE5, ULRICH GEMBRUCH1, CARL WEINER2, CHRISTOPHER HARMAN1, 1University of Maryland at Baltimore, Obstetrics, Gynecology and Reproductive Sciences, Baltimore, MD 2University of Colorado Health Sciences Center, Obstetrics and Gynecology, Denver, CO 3St. George’s Hospital Medical School, Fetal Medicine Unit, London, United Kingdom 4Friedrich Wilhelm University, Obstetrics & Prenatal Medicine, Bonn, Germany 5University Hospital Leiden, Obstetrics & Gynecology, Leiden, Netherlands

OBJECTIVE: To quantify the rate and determinants of intact survival in IUGR offspring delivered <32 weeks.

STUDY DESIGN: This multicenter study evaluated IUGR fetuses (accurate gestational dating, BW <10th centile, elevated umbilical artery Doppler index). Stillbirth and major neonatal complications (MNC) (>grade 2 IVH, BPD, NEC, circulatory insufficiency, neonatal death) were recorded and related to multiple variables (arterial and venous Doppler, biophysical profile, gestational age [GA], BW, maternal condition) using chi-square and logistic regression.

RESULTS: Among 159 pregnancies, there were 20 stillbirths (12.6%). At delivery, 45 were acidemic (28.5%), 74 had MNC (46.5%), and 22 died postpartum (13.8%). Ninety-six (60.4%) survived intact without any of the above complications. Intact survival rose with GA. Main determinants of intact survival were GA ($r^2 = 0.54$, $P < 0.001$), acid base status at birth ($r^2 = 0.44$), BW ($r^2 = 0.57$, both $P < 0.001$), biophysical profile score $<6$ ($r^2 = 0.17$, $P < 0.05$), and ductus venosus Doppler index elevation ($r^2 = 0.45$, $P < 0.02$).

CONCLUSION: The GA at delivery coupled with the degree of fetal cardiovascular and metabolic deterioration are the major determinants of intact survival in preterm IUGR, stressing the importance of accurate fetal status assessment using multiple modalities including arterial and venous Doppler analyses.

578 IS DIGOXIN THE DRUG OF CHOICE FOR SUPRAVENTRICULAR TACHYCARDIA ASSOCIATED WITH SEVERE HYDROPS FETALIS? GILAD RATTAN1, JESSICA ASCHER-LANDSBERG1, ARIEL MANY1, JOSEPH B. LESING1, SHMU EL DIAMANT1, MICHAEL J. KUPFERMINC1, 1Lis Maternity Hospital, Tel Aviv Medical Center, Tel Aviv University, Obstetrics & Gynecology, Tel Aviv, Israel 2Tel Aviv Medical Center, Tel Aviv University, Pediatric Cardiology, Tel Aviv, Israel

OBJECTIVE: Fetal supraventricular tachycardia (SVT) leading to severe hydrops is an extremely rare condition and potentially fatal. Digoxin is often mentioned as the drug of choice for this condition, whereas flecainide has mostly been utilized as second-line agent. We describe 6 cases of SVT associated with severe hydrops fetalis.

STUDY DESIGN: We treated 6 women with fetal SVT and severe hydrops between 1997 and 2003. Gestational ages were 22, 23, 25, 24, 32, and 28 weeks. Diagnosis of SVT was made by echocardiography performed by a pediatric cardiologist, and structural cardiac anomalies were excluded. In all 6 fetuses, pleural effusion, and generalized edema were observed. In 4 cases, digoxin in a loading dose, followed by a maintenance dose, was administered, achieving maternal serum therapeutic levels. In 2 cases flecainide was started as first-line agent.

RESULTS: In the 4 cases in which digoxin was used as first-line agent, stabilization of fetal heart rate (FHR) did not occur and resolution of hydrops was not observed, although maternal therapeutic levels were achieved and expectancy period of at least 5 half-lives elapsed. Therapy was switched to flecainide, and in all 4 cases normalization of FHR occurred within 5-7 days. Hydrops resolved in all 4 cases within 2-4 weeks. All delivered normal neonates at term with normal cardiac rhythm. In 2 subsequent patients flecainide was used as first-line agent. Normalization of FHR was observed on the sixth day of therapy, followed by resolution of fetal hydrops. Maternal side effects were not observed with either drug.

CONCLUSION: Although in a small series, dictated by the rarity of the clinical condition, our results indicate that in cases of fetal SVT associated with severe hydrops, flecainide rather than digoxin may be used as the drug of choice.

577 FETAL GROWTH POTENTIAL IN HIV-POSITIVE PATIENTS AHMET BASCHAT1, RADEK BUKOWSKI2, MICHELLE KUSH1, JAN KRIEBS3, CHRISTOPHER HARMAN1, 1University of Maryland at Baltimore, Obstetrics, Gynecology and Reproductive Sciences, Baltimore, MD 2University of Texas Medical Branch at Galveston, Obstetrics and Gynecology, Galveston, TX 3University of Maryland at Baltimore, Obstetrics, Gynecology & Repro Sciences, Baltimore, MD

OBJECTIVE: To compare measures and determinants of impaired fetal growth in HIV-positive women using individualized fetal growth potential (GP) and traditional population-based birthweight (BW) percentiles.

STUDY DESIGN: Ninety-one HIV-positive patients had regular surveillance of sample size.

RESULTS: Thirty-one infants with antenatally diagnosed gastroschisis born between January 1993 and December 2002 were divided into three study groups: (1) CD without labor, (2) CD after labor, and (3) vaginal delivery. Data were collected on gestational age, birthweight, Apgar scores, meconium, and interval to first corrective surgery. Measured outcomes included primary closure, days to enteral feeding, sepsis, length of antibiotic therapy, and length of NICU stay. Kruskal-Wallis and Mann-Whitney tests were used to determine differences between the study groups. Power analysis was performed to determine adequacy of sample size.

RESULTS: Thirty-one infants antenatally diagnosed with gastroschisis were identified: 9 in group 1, 7 in group 2, and 15 in group 3. No differences were noted between groups 2 and 3. Evaluating group 1 and the combination of groups 2 and 3, infants delivered by CD without labor had shorter intervals to first corrective surgery (31 vs 125 minutes, $P = 0.01$) and a lower incidence of meconium-stained fluid (22% vs 82%, $P = 0.002$). Infants in group 1 had more rapid initiation of enteral feeds (14 vs 32 days, $P = 0.04$) and fewer days of antibiotic therapy (4 vs 14 days, $P = 0.02$). No differences were identified in the other variables or outcomes. Post hoc power analysis indicated sufficient power to negate the effect of labor on primary closure but insufficient power to determine the effect on length of NICU stay or incidence of sepsis.

CONCLUSION: Labor is associated with increased morbidity in infants with antenatally diagnosed gastroschisis. Additional patients and further analysis are needed to determine if this is due to the process of labor or the timing of neonatal surgical repair following unscheduled deliveries.