

twenty of the above studies, two observers measured each of the parameters at least twice. Intra / inter-observer error was the mean deviation calculated as a percentage of the mean measurement.

Main Results: Overall, TA measurements of both cervix and placental edge position were statistically different from measurements obtained TV. In second trimester, the TA cervix estimate was $2.7 \text{ mm} < (95\% \text{ CI } 1.8\text{-}3.6) \text{ TV estimate}$. >24 weeks gestation, the difference between the two methods for cervix was not statistically significant, however, the TA measurements detected only 1 of 16 cervix $< 25 \text{ mm}$ with a subsequent sensitivity of 0.06. There was a large inter-observer variation seen for both parameters whilst intra-observer difference was higher for TA placental edge than for the other measurements.

Importance of the Conclusions: TA estimates of cervix and placental edge position did not reflect the estimates obtained by TV assessment. As both measures are important markers of pregnancy outcome and management, the transabdominal method in the present form is insufficient in clinical management.

TL.10.008

Role of Nuchal Translucency in Detection and Management of Congenital Anomalies in First Trimester Sonography in Developing Countries

K. V. N. Dhananjaya

Manipal University, Mangalore, Karnataka, India

Brief Description of the Purpose of the Study: Variation of Nuchal Translucency (NT) measurements with increasing Crown-Rump Length (CRL). To correlate Nuchal Translucency with pregnancy outcome and clinical assessment of newborn for congenital anomalies.

Methods: Antenatal ultrasound scanning done on pregnant women with singleton pregnancies and the fetal NT thickness was measured between 11 weeks and 13 weeks 6 days of gestation. Ultrasound probe used for transabdominal scanning was curvilinear probe with frequency band width of 3.5-5MHz. During the 11-13+6 weeks scan, the foetal CRL, Nuchal translucency, any structural abnormalities in the foetus, uterine anomaly, adnexa, cervix and the internal os were noted.

Main Results: In our study, we have done NT scan from 11 - 13+6 weeks of gestation; the mean examination time of the NT scan was 87.97 (12weeks 3days) standard deviation (SD)= 4.832. Subject study with high NT is 186 (16.6%) with 98.6% accuracy of association with congenital anomalies. Subject study with low NT is 936 (83.4%) with 99.8% of the babies born with no congenital anomalies.

Importance of the Conclusions: NT measurements increase with increasing CRL and a false positive rate increases with increasing gestational age. There is a strong association with high NT values and congenital anomalies.

TL.10.009

Placenta-Fetal Circulation Change After Maternal Betamethasone Administration in Mono chorionic Twin With Selective Intrauterine Growth Restriction and Abnormal Umbilical Artery Doppler

P. C. C. Hsieh, Y. L. Chang, S. D. Chang, A. S. Chao, C. N. Wang, T. H. Wang

Department of OB/GYN, Chang Gung Memorial Hospital, Tao-Yuan, Taiwan

Brief Description of the Purpose of the Study: To evaluate the placenta-fetal perfusion by analyzing the umbilical venous volume flow (UVVF) following maternal Betamethasone administration in mono chorionic twins (MC) with selective intrauterine growth restriction (sIUGR) and abnormal umbilical artery (UA) Doppler.

Methods: UVVF was calculated by multiplying the umbilical vein cross-sectional area at its entry into the fetal abdomen by half of the maximum velocity. Normalized UVVF was defined as UVVF/birth weight (Kg). After administration of the first dose of Betamethasone, UVVF and UA Doppler were recorded prior to (D0), 24 hours (D1) and 48 hours (D2), respectively. Intertwin perfusion ratio of normalized UVVF was defined as normalized UVVF (sIUGR) twin/normalized UVVF (appropriate for gestational age (AGA)) twin.

Main Results: Six (24 %) of the 25 cases the sIUGR twin UA Doppler returned to positive end-diastolic velocity after Betamethasone administration. Both normalized UVVFs of the AGA and sIUGR twins increased at D1 and D2. The intertwin perfusion ratio of normalized UVVF did not change significantly after Betamethasone administration.

Importance of the Conclusions: Antenatal corticosteroid administration increases the placenta-fetal circulation but without significant changes of the intertwin perfusion ratio in MC with sIUGR.

TL.10.012

WITHDRAWN

TL.10.015

3D Volume Flow Measurement With the PixelFlux-Technique Demonstrate Reduced Perfusion in IUGR Fetuses

Scholbach Thomas, Stolle Jörg, Scholbach Jakob Chemnitz Clinics

Brief Description of the Purpose of the Study: Today no true volume flow measurement of the fetus is possible since 2D color Doppler data miss the true spatially angle-corrected flow velocities and cannot display non-circular configurations of the umbilical vein. The PixelFlux-technique overcomes these limitations and calculates true flow volumes from conventional 3D-Color Doppler data of the umbilical cord.

Methods: Fetal 3D-color Doppler of the umbilical vein PixelFlux-measurement of each pixels true i.e. spatially angle corrected flow velocity and area. Material 736 measurements in 206 fetuses (23 - 40 gestational week) 135 normal, 27 IUGR, 47 SGA, 5 hypertrophic (8 changed the group).

Main Results: IUGR fetuses suffer from a significantly reduced global flow volume (141 ml/kg*min) compared to normal weight fetuses (226 ml/kg*min).

Importance of the Conclusions: The PixelFlux-technique can perform true measurements of fetal perfusion volumes. This can help to detect early stages of fetal compromise. Technical limitations of traditional Doppler techniques are overcome. The method adds a truly physiological parameter to the armamentarium of fetal diagnostics. Not blood flow velocities or Resistance Indices of vessels running away from the fetus but true blood flow volumes of the only vessel running towards the fetus are used to describe the perfusion state of the unborn.