

## Can transverse cerebellar diameter/abdominal circumference ratio serve as a parameter to identify IUGR pregnancies

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**PURPOSE:** In IUGR, Abdominal Circumference (AC) is most commonly affected parameter while cerebellar flow is relatively spared in growth restricted foetuses. Transverse cerebellar diameter (TCD): AC ratio remains fairly constant throughout gestation in normal pregnancy. Aim of the study was 1. To evaluate the ability of TCD to AC ratio to identify growth restricted foetuses. 2. To correlate these parameters with foetal outcome.

**MATERIALS AND METHODS:** A total of 115 singleton non anomalous pregnant females between 14–42 weeks of pregnancy with known LMP were taken up. Pregnancy at risk for growth restriction (Pre-eclampsia, Abruption, Oligohydramnios) in current or previous pregnancy or with small for gestational age foetus (detected clinically by difference in expected and actual symphysio-Fundal height of > 5 cms) were taken in cases category. The control group had at least one normal USG in first trimester and had no medical or bad obstetrical history. The ANC examination was carried out on Nemio-XG-TOSHIBA ISTYLE USG machine using 3–5 MHz probe. Statistical analysis was done using Students 't' test. p value < 0.05 was considered as statistically significant. Concordance was assessed based on pearsons correlation.

**RESULTS:** In the present study, TCD:AC ratio was found to be  $0.140 \pm 0.059$  (SD) in normal pregnancy, thus is a useful age independent parameter. Out of 40 foetuses that were found to have asymmetric IUGR, 32 were picked up by TCD/AC ratio. Out of eight IUGR foetuses not picked by TCD/AC ratio, 5 of these were found to have severe growth restriction. Sensitivity, Specificity, positive and negative predictive value was found to 80%, 96%, 91.4% and 90% respectively.

**CONCLUSION:** Thus TCD/AC ratio can be a useful parameter for assessment of growth restriction, however, ratio can be normal in severely growth restricted foetuses.