Transverse diameter of Thymus in second trimester of pregnancy by 2D ultrasound: Normogram of Indian Fetuses

R. Gevariya, P. Acharya. Paras Advanced Centre for Fetal Medicine, Ahmedabad, India

**Introduction**

- The thymus has been studied in fetuses as an additional marker of DiGeorge Syndrome.
- Recently, it has also been associated with prolonged premature rupture of membranes and intrauterine growth restriction (IUGR).
- We have carried out this study to develop a normogram of the thymus transverse diameter (TTD) in second trimester of pregnancy by 2D ultrasound in Indian fetuses.

**Methods**

- Prospective and cross sectional
- TTD was measured by placing a line cursor perpendicular to the line connecting the spine and sternum in normal fetuses between 18 to 28 weeks of gestation using GE Volusion E10-BT/E8-BT 13.5 ultrasound device with a transabdominal C5-9, 9L, RAB6-D transducers
- The relationship of TTD with the gestational age was assessed by using general linear regression modeling. Centile curves were calculated using mean (µ) and standard deviation (SD).

**Results**

- The measurement was possible in all 330 fetuses.
- The predicted mean and 1st, 5th, 10th, 50th, 90th, 95th and 99th centile reference ranges of thymus area measurements at each gestational age are shown in table and graph below
- TTD increased with increasing gestational age in a linear manner.

**Discussion**

- This will help us identify a possible association of thymic hypoplasia with DiGeorge syndrome and trisomy 18 and 21

**Conclusion**

- We have created a normogram for TTD on 2D-US in Indian fetuses of 18-28 week of gestation

Regression equation $\text{TTD} = 0.0544x^2 - 1.2903x + 17.326$