Objectives: Lung hypoplasia has been diagnosed by reduced thoracic measurements. Sensitivity and specificity has been reported 80%. With the advent of high-resolution ultrasonography, a much-detailed image of the thorax is possible and normal reference ranges are needed.

Methods: retrospective thoracic images were collected from an ultrasound database, ViewPoint. Images were included if the whole thorax was recorded in a four chamber view of the heart. The thorax was measured by ellipse, longest diameters and tracing the interior border of the bony structures: ribs and vertebrae. The measured areas were compared.

Results: 83 images were recovered and considered adequate for standard. All were normal singleton fetuses, within p10 and p90. The traced intrathoracic area (TITA) was correlated to gestational age as expected. TITA was 54% and ellipse was 85% of the thoracic area by AP x TRANS diameters (p<0.01). The difference of TITA and ellipse was constant through all gestational ages, supporting that the difference is purely methodological, rather than GA dependant (Bland and Altman Plot mean -44%).

Conclusions: TLA is a precise way to measure the lung size, excluding bony structures. It allows including the heart and the lungs.