

EP0.8:76 Diagnostic accuracy of "clock-face" landmarks (5 and 7 o'clock) in the detection of aberrant right subclavian artery (ARSA): a study of 200 fetuses

Objectives To assess sensitivity and specificity of 5 and 7 o'clock landmarks in identifying ARSA in a cohort of 200 high-risk 7routine-screened fetuses

Methods :A prospective study was conducted on 200 pregnant patients (gestational age 18–24 weeks) over a period of 2 years (2023-2025) at Advance Diagnostics Indirapuram, Ghaziabad. The sonographic protocol utilized a transverse sweep of the fetal upper thorax to obtain the 3VT view. The trachea was used as the central reference point of a virtual clock face. "7 o'clock landmark" was defined as the vessel origin from the junction of the aortic arch and descending aorta. "5 o'clock landmark" was defined as the visualization of the vessel passing posterior to the trachea toward the right shoulder. Color Doppler was applied with a low pulse repetition frequency (PRF) to confirm flow direction.

Results Out of the 200 cases, ARSA was identified in 8 fetuses (4% prevalence in this specific cohort). In 100% (8/8) of the confirmed ARSA cases, vessel was successfully mapped starting at 7 o'clock position. 5 o'clock retro-tracheal crossing was clearly visualized in 7 of the 8 cases (87.5%), with one case being limited by fetal positioning (occiput anterior). No false positives were recorded when both landmarks were strictly applied. In the remaining 192 cases with normal anatomy, right subclavian artery was correctly identified arising from brachiocephalic trunk, anterior to trachea, clearly distinct from 5 and 7 o'clock posterior coordinates.

Conclusions : 7 o'clock position is the most sensitive indicator of origin, while the 5 o'clock position confirms the pathognomonic retro-tracheal course. Integrating this "clock-face" methodology into routine mid-trimester morphology scans improves diagnostic confidence and reduces the likelihood of missing this subtle but clinically significant vascular anomaly.

