

The “Air jet” sign: a midtrimester ultrasound marker for isolated cleft of the secondary palate

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Introduction: The prenatal detection rate of an isolated cleft palate is lower when compared to the detection rates of cleft lip and palate. The known ultrasound techniques to evaluate the palate in midtrimester scan are, namely imaging the uvula and visualization of the bony posterior edge of the secondary palate. Both these planes have their own pitfalls. The glottic folds can be mistaken for the uvula in axial view and the bony posterior edge often has a midline echo dropout in routine ultrasound. The objective of this study is to describe a new sign in axial plane called the “air jet” sign, for the diagnosis of cleft of the secondary palate on two-dimensional imaging in mid-trimester.

Methods: This was a retrospective evaluation of the “air jet” sign in 12 cases of postnatally confirmed cleft of secondary palate, diagnosed between 20-28 weeks of gestation. In normal cases, the bony posterior edge of the palate is intact and the vomer is not visualised in midline. In the cleft of the secondary palate, as the secondary palate is deficient in midline, the vomer is seen in the axial view as a midline echo. The vomer along with oblique lateral palatine shelves gives the appearance of an air jet. In this view, the ala vomeris appears in the midline as the rear end of the air jet, the oblique secondary palatal shelves forms the wings of the air jet and the central body is formed by the vomer.

Results: The “air jet” sign was visualised in 10/12 (83%) of cases with an isolated cleft of the secondary palate. The vomer along with ala vomeris was visualised through the midline palatine defect. In two cases with a small midline posterior cleft, the sign was not visualized.

Conclusion: Documentation of the “air jet” sign proves the midline defect in the secondary palate and that the defect visualised in the bony posterior edge of the palate is not an artefact. This sign is an easily recognisable landmark for the diagnosis of cleft of the fetal secondary palate in mid-trimester.

