

Tracheal web: Imaging with 3D-Virtual Bronchoscopy

Clinical History: A 5 day old baby presented with history of marked inspiratory stridor since birth. Cyanosis and pallor was seen on 4th day of life. Child required intubation and mechanical ventilation. CT scan of the neck was performed with virtual bronchoscopy imaging.

Findings:

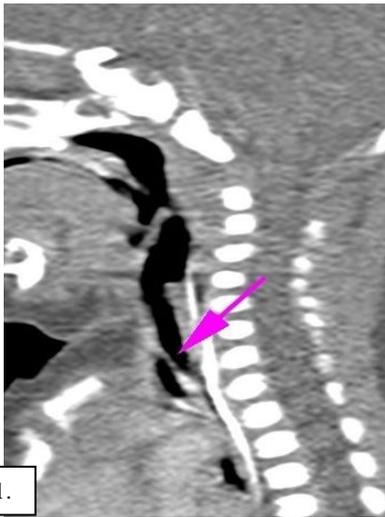


Fig 1.

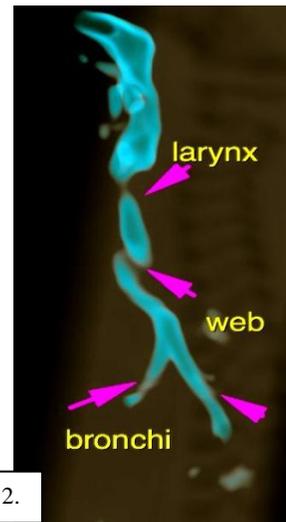


Fig 2.

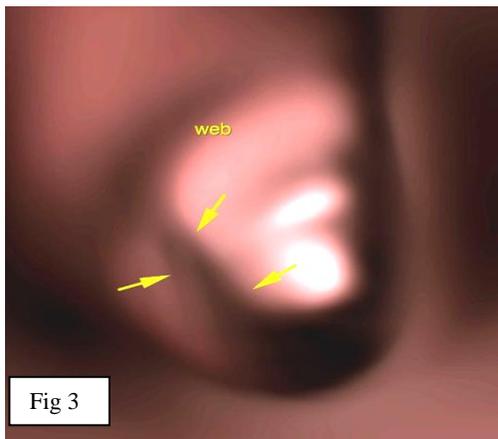


Fig 3

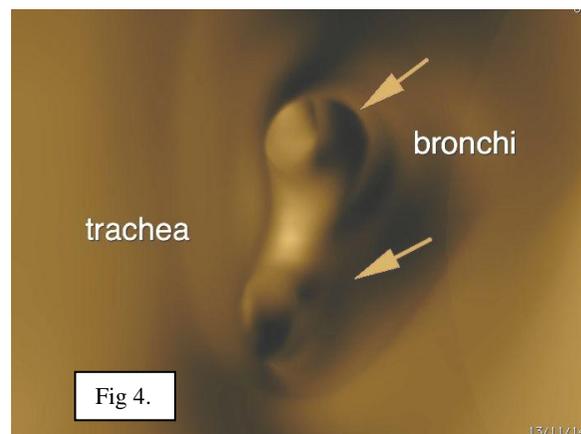


Fig 4.

- In the proximal part of trachea at C7 to D1 level, there is evidence of a ledge of soft tissue seen extending across the lateral tracheal walls, as seen in sagittal reformatted image Fig 1, and virtual bronchoscopy Fig 2, 3, 4. There is tracheal luminal narrowing noted in this region. The ledge of soft tissue measures approximately 1.1 cm in length and 0.18cm in thickness. The proximal end of this soft tissue is seen approximately 0.8cm from the level of the glottis.
- Rest of the tracheo-bronchial tree are normal. Carina and the bronchi are normal.
- No obvious vascular loops are seen around the trachea.
- The larynx appears normal. Glottis and subglottic regions are normal.

Diagnosis: Ledge of soft tissue extending across the lateral tracheal walls, suggestive of tracheal web.

Discussion:

Congenital tracheal web is a rare entity, usually presenting with stridor, wheezing, and recurrent respiratory infections. The web is not associated with deformity of the tracheal cartilage or the tracheal wall, and CT demonstrates a web-like structure traversing and narrowing the tracheal lumen. Coronal, sagittal reformatted images and virtual bronchoscopy are best for depicting the tracheal web.

Recent state-of-the-art computed tomography and improved three-dimensional (3-D) post-processing techniques have revolutionized the capability of visualizing airway pathology, offering clinicians an advanced view of pathology and allowing for appropriate management planning.

The complementary use of both 2-D and 3-D CT imaging can very accurately define the location as well as intra- and extra-luminal extent of pathology of the central airways.

With the currently achieved image quality and versatility of depicting these pathologies, imaging of the airways knows virtually no boundaries.

Dr.Deepa S.Nadkarni / Dr.Shaikh M.Mazhar

N.B: This case is authentic and from the archives of Radiance Diagnostics. For any queries/suggestions/feedback write to us at radiance@radiancediagnostics.in. Case of the month can also be accessed anytime online at **VIEW BOX** at www.radiancediagnostics.in