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Images in...

Coexistence of two anatomical bronchial variances

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DESCRIPTION

A 70-year-old man with mediastinal lymphadenopathy was referred to our centre for endobronchial ultrasound with transbronchial needle aspiration. During the bronchoscopic examination, two separate anatomical bronchial variances were observed: a supernumerary 'true' tracheal bronchus branching off from the distal right lateral wall of the trachea (figure 1A) and a displaced aberrant 'tracheal' bronchus arising from the distal lateral wall of the left main stem bronchus (figure 1B). There was a normal right upper lobe bronchus but the upper division truncus of the left upper lobe bronchus was absent. CT imaging and reconstructed images of the right and left tracheal bronchi are shown in figure 2A,B. The term tracheal bronchus encompasses a variety of bronchial anomalies originating from the trachea or main bronchi and involving the upper lobes. These bronchi are considered supernumerary rather than displaced when they coexist with a normal type branching of the upper lobe bronchi. Anomalous bronchi are considered displaced when an aberrant bronchus is present and one branch of the upper lobe bronchus is missing.[1] Normal upper lobe bronchi originate above the pulmonary artery (eparterial) on the right and below the pulmonary artery (hyparterial) on the left side. Based on their relative locations to the pulmonary artery, anomalous bronchi arising proximal to the origin of the normal upper lobes are called preeparterial on the right and prehyparterial on the left side whereas, anomalous bronchi arising distal to the origin of the upper lobe bronchi are termed posteparterial on the right and posthyparterial on the left side[1](figure 3). The prevalence of tracheal bronchus ranges from 0.1% to 3% on the right and 0.3%–1% on the left.[2]

Learning points

- Anomalous bronchi are usually asymptomatic and discovered incidentally.
- The coexistence of bilateral tracheal bronchi, a supernumerary pre-eparterial bronchus on the right and a displaced prehyparterial bronchus on the left as in our case, is very rare.

Competing interests None.

Patient consent Not obtained.

REFERENCES

1. **Ghaye B,** Szapiro D, Fanchamps JM, *et al*. Congenital bronchial abnormalities revisited. *Radiographics* 2001;**21**:105–19. Available from: http://radiographics.rsna.org/content/21/1/105.abstract
2. **Gonlugur U,** Efeoglu T, Kaptanoglu M, *et al*. Major anatomical variations of the tracheobronchial tree: bronchoscopic observation. *Anat Sci Int* 2005;**80**:111–15.

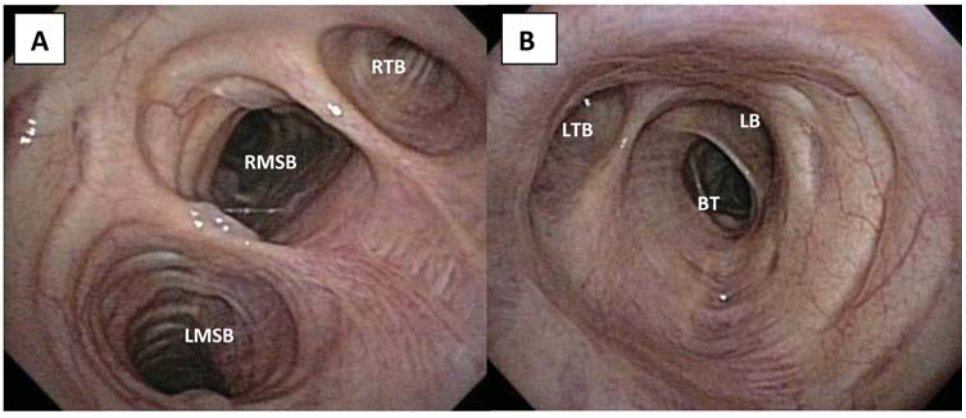

Figure 1 (A) Bronchoscopic view of distal trachea with a right tracheal bronchus. (B) Bronchoscopic view of the left main stem bronchus with a left tracheal bronchus. BT, basilar trunchus; LB, lingular bronchus; LMSB, left main stem bronchus; LTB, left tracheal bronchus; RMSB, right main stem bronchus; RTB, right tracheal bronchus.

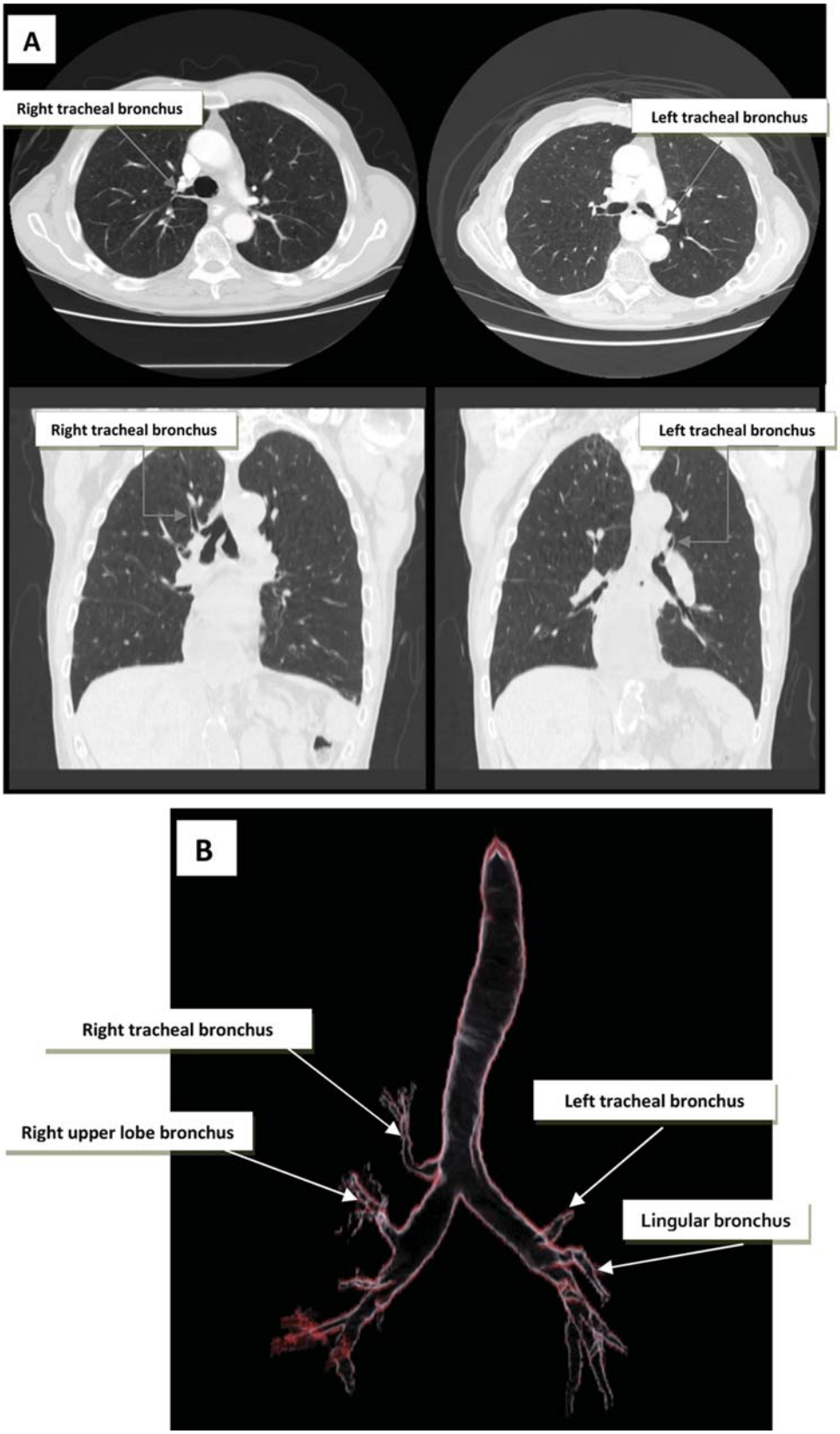

Figure 2 (A, B) CT images of the right and left tracheal bronchi. Reconstructed CT imaging of the right and left tracheal bronchi.

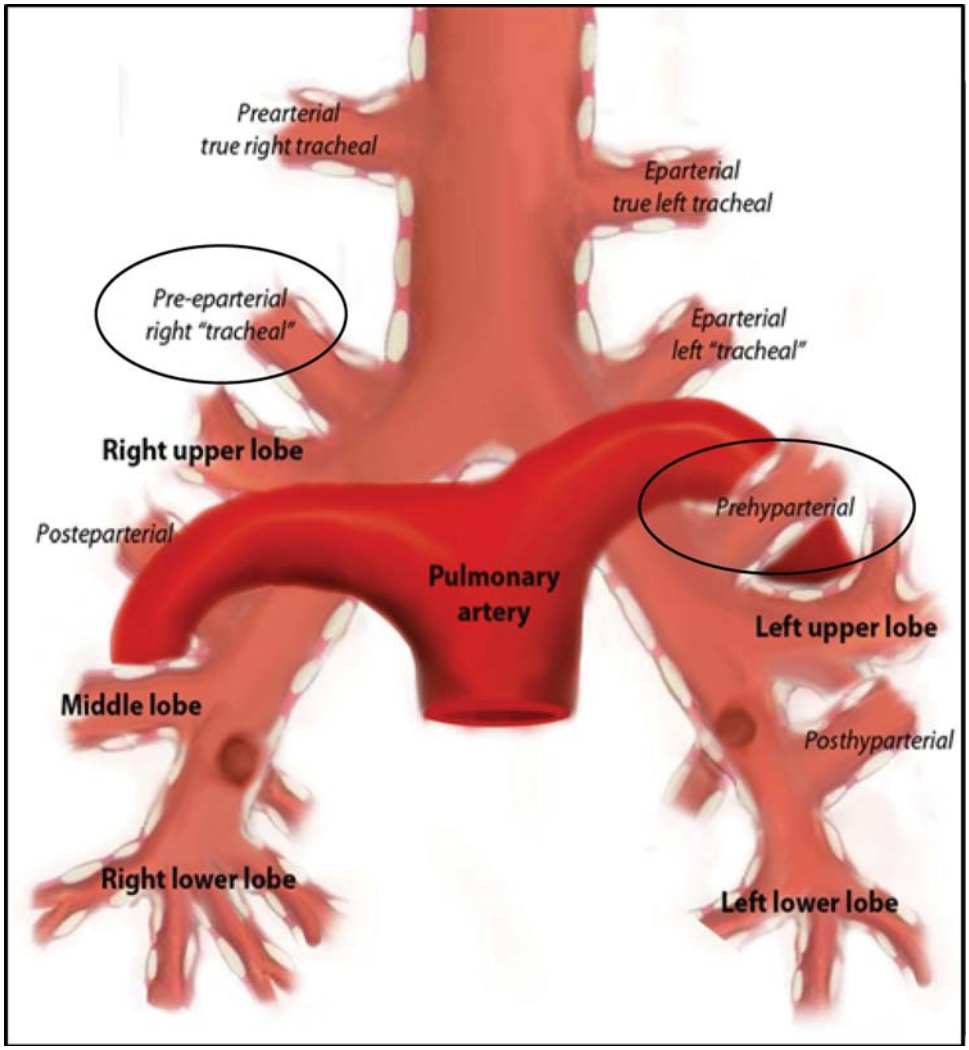

Figure 3 Nomenclature of aberrant bronchi to the upper lobes and their relationship to pulmonary vasculature. Oval enclosures highlight the two coexistent bronchial variances in this case.