



Implications of a tracheal bronchus in a patient with thymoma

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A 68-year-old woman with myasthenia gravis underwent a CT scan of the chest, which revealed a 4-cm solid mass in the anterior mediastinum, consistent with a thymoma (Figure 1). A type II tracheal bronchus, arising 3 cm above the carina, was incidentally detected on the CT

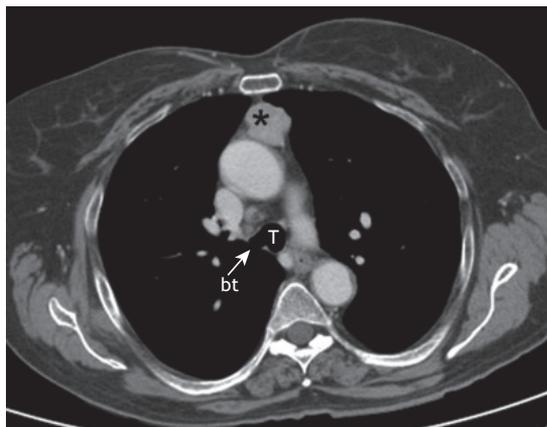


Figure 1. Axial CT scan of the chest, showing a solid mass in the anterior mediastinum (asterisk), consistent with a thymoma. Note the tracheal bronchus (bt) branching off from the trachea (T).

scan (Figure 2). The patient was scheduled for elective surgery (thoracoscopy). An endobronchial blocker was inserted through a rigid bronchoscope and deployed in the left main bronchus for ventilation of the right lung. A 9-mm cuffed oral tracheal tube was placed above the offset of the tracheal bronchus in order to properly ventilate all zones of the right lung. The thoracic surgeons successfully resected the anterior mediastinal thymoma via a left thoracoscopic approach.

The presence of an asymptomatic congenital anomaly of the tracheobronchial tree in thoracic surgery patients can be challenging not only to thoracic surgeons but also to anesthesiologists. The most common anomaly (reported in up to 3% of the population) is a tracheal bronchus that supplies the right upper lobe. When one-lung ventilation is contemplated in these patients, anesthesiologists should avoid blocking the tracheal bronchus by using a left bronchial blocker and placing a tracheal tube proximal to the level of the tracheal bronchus, so that all zones of the right lung can be ventilated. Our case highlights the surgical challenges as well as the airway management implications of a patient presenting with a tracheal bronchus and an anterior mediastinal mass.



Figure 2. (A) Coronal CT scan and (B) volume rendering CT image, providing a better depiction of the tracheal bronchus (arrows).

RECOMMENDED READING

1. Wooten C, Patel S, Cassidy L, Watanabe K, Matusz P, Tubbs RS, et al. Variations of the tracheobronchial tree: anatomical and clinical significance. *Clin Anat.* 2014;27(8):1223-33. <http://dx.doi.org/10.1002/ca.22351>

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