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*Tracheal bronchus as an incidental finding in multislice
computed tomography examination of chest with virtual
bronchoscopy – a case report*

Tracheal bronchus is a rare congenital anomaly of lower airways, related to direct origin of upper lobar bronchus from lateral wall of trachea, proximal to carina. Its occurrence varies according to different papers from 0.5% to 2% (2, 5). The paper deals with a case of asymptomatic tracheal bronchus as incidental finding in multislice computed tomography (MSCT) examination of chest.

CASE REPORT

J. L., a 63-year-old male was referred to the Department of Radiology for MSCT chest examination because of clinical status suggesting bronchiectasis. MSCT examination of chest was performed with 64-row CT scanner (GE Medical Systems). Native and post-contrast scanning with 2.5 mm collimation was performed. Raw data were postprocessed with Advantage Window 4.2 workstation using volumetric reformations, minimum intensity projections and multiplanar reformations.

The CT examination showed the presence of minimal parenchymal pulmonary changes. Major finding in the examination was the presence of right precarinal bronchus to the upper lobe. Volume Rendering for virtual bronchoscopy and vascular structures imaging and minimum intensity projections were used for visualization of the variant anatomy.



Fig. 1. Virtual bronchoscopy – volumetric reconstruction of tracheal lumen. Above the right main bronchus visible origin of right lobar bronchus (arrowhead)



Fig. 2. Coronal reconstruction, minimum intensity projection. Arrowhead indicates origin of right upper lobar bronchus



Fig. 3. Volume rendering reconstruction of pulmonary arteries, anterior view. Arrowhead indicates origin of variant artery from proximal right pulmonary artery

DISCUSSION

Tracheal bronchus (or “pig bronchus”, as normally present in ruminant animals), is a rare anomaly of airways. It occurs more commonly in the right lung, as shown recently by Ghaye et al. (3), and may be associated with other congenital anomalies, particularly Down’s syndrome (2). Bifurcation of trachea occurs in 4th week of development and the presence of tracheal bronchus is most probably related to impaired development of tracheobronchial divisions (4). Its presence may result in uncommon complications in intubated patients, because of persistent lobar atelectasis (7) related to its accidental occlusion by intubation tube. Typically the tracheal bronchus may be asymptomatic, or cause symptoms suggestive of lower respiratory tract infections. Most common presenting complaints in pediatric patients finally diagnosed with tracheal bronchus are stridor, recurrent pneumonia, and suspected foreign body aspiration (6).

However, the majority of patients are asymptomatic. In patients with recurrent pneumonia complicated by bronchiectasis, surgical resection of the anomalous segment or lobe is the treatment of choice (1).

MSCT imaging allows detailed visualization of bronchial anatomy. Because of rare incidence of the described anomaly, and its potential consequences, it should always be included in radiological report.

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SUMMARY

Tracheal bronchus is an unusual congenital anomaly with separate origin of upper lobar bronchus proximal to bifurcation of trachea. However rare, it may be related to impaired ventilation, or complications of intubation. The paper describes a case of incidental finding of tracheal bronchus in a 63-year-old male in MSCT examination of chest visualized with multiplanar reformations, minimum intensity projections and virtual bronchoscopy.

Oskrzele tchawicze stwierdzone w wielorzędowej tomografii komputerowej klatki piersiowej z zastosowaniem bronchoskopii wirtualnej – opis przypadku

Oskrzele tchawicze jest rzadkim wariantem anatomicznym drzewa oskrzelowego, polegającym na samodzielnym odejściu, najczęściej prawego, oskrzela górnopłatowego proksymalnie od rozdwojenia tchawicy. Jego występowanie może powodować rzadkie powikłania przebiegu infekcji dróg oddechowych i intubacji. Praca przedstawia przypadek oskrzela tchawiczego stwierdzonego w badaniu wielorzędowej tomografii komputerowej klatki piersiowej.