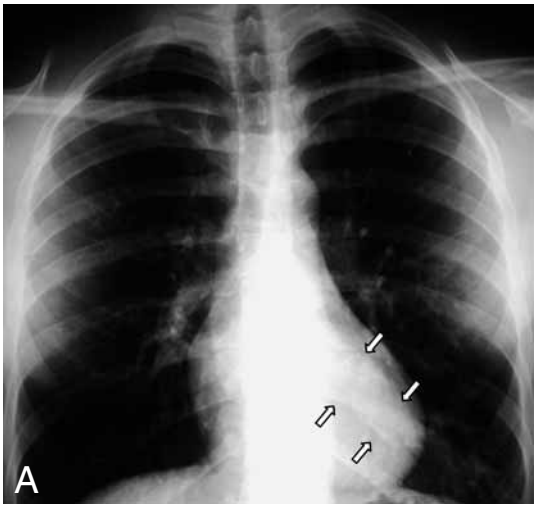
View metadata, citation and similar papers at core.ac.uk

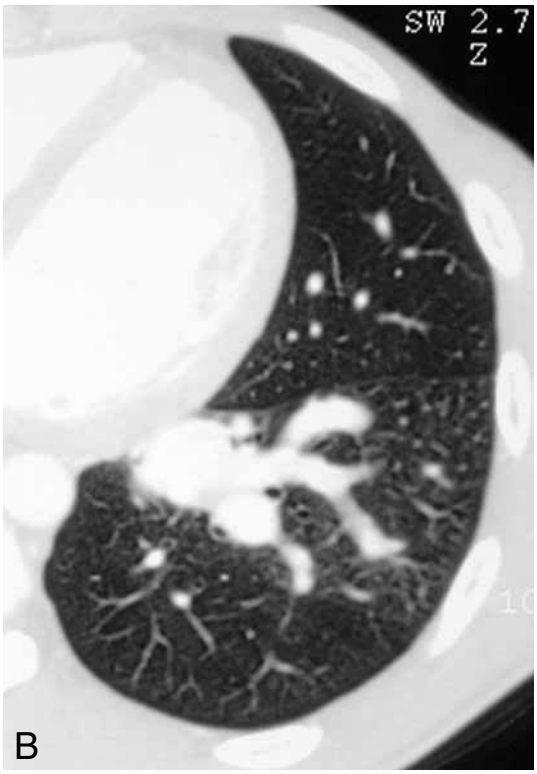
brought to you by CORE

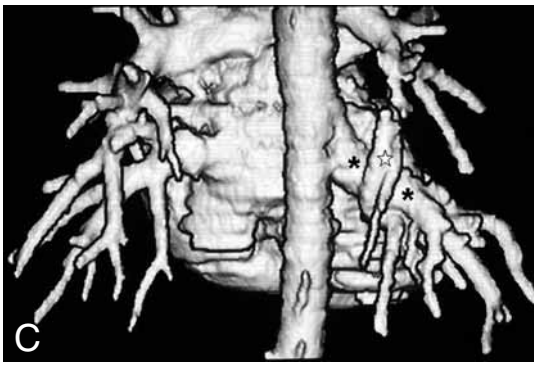
provided by Institutional Research Information System University of Turin

JBR–BTR, 2008, 91: 24.

IMAGES IN CLINICAL RADIOLOGY







Three-dimensional demonstration of systemic blood supply to normal left basal segments

P. Borasio[1], L. Cardinale[2], P. Lausi[1], C. Albera[3], F. Ardissone[1]

A 20-year old non-smoker man presented with a 2-month history of episodic blood streaking of the sputum. Physical examination revealed decreased breath sounds and a continuous bruit in the left lower lung field. Chest radiography showed a retrocardiac vessel-like opacity with focal obliteration of the descending aortic interface and increased vascular shadows in the left lower lobe (Fig. A, arrows). Computed tomographic scan on lung window setting demonstrated dilated peripheral branches of the aberrant artery and increased attenuation of involved segments (Fig. B). Three-dimensional computed tomography clearly showed the anomalous artery arising from the lower thoracic aorta (Fig. C, black asterisks). Venous return was via the inferior pulmonary vein into the left atrium. The patient had no evidence of left ventricular overload or pulmonary hypertension. Pulmonary function tests and arterial blood gas tensions were normal. Bronchoscopy disclosed no abnormality.

At surgery, the anomalous artery, 2 cm in diameter, was sutured flush to the thoracic aorta using an Endo-GIA stapling device and divided. Then, a basal segmentectomy was performed, sparing two pulmonary arterial branches which supplied the superior segment of the lower lobe (Fig. C, white star). Pathologic examination of the resected specimen did not identify any sequestrated lung.

The patient had an uncomplicated postoperative recovery, and remains well 5 years after surgery.

Comment

Anomalous systemic arterial supply to the normal lung is a rare variant of the sequestration (or malinosculation) spectrum, which includes a wide range of congenital anomalies of the bronchopulmonary airways and related vasculature. These lesions can be classified according to their abnormal anatomical component(s): tracheobronchial airway, lung parenchyma, arterial supply, and venous drainage. Indeed, the striking clarity with which the aberrant systemic arterial supply to an area of otherwise normal lung was shown on the three-dimensional reconstruction emphasizes the potential of this technique for a prompt understanding of unusual anatomy.

1. Thoracic Surgery Unit, 2. Radiology Unit, 3. Respiratory Medicine Unit, University of Turin, Department of Clinical & Biological Sciences, San Luigi Hospital, Orbassano, Turin, Italy.