A curious lobe

Andréa Chabot-Naud¹, George Rakovich MD², Karine Chagnon MD³,
Denise Ouellette MD², Gilles Beauchamp MD²

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A case of azygos lobe is presented. An azygos lobe is an accessory lobe of the lung that may occasionally be confused with a pathological process such as a bulla, lung abscess or neoplasm. Its pathogenesis is discussed, as are the characteristic x-ray features that enable an accurate diagnosis.

Key Words: Accessory lobe; Anatomy; Azygos lobe; Lung

CASE PRESENTATION

A 48-year-old man underwent a chest x-ray while being treated for a colorectal malignancy. The x-ray showed a curvilinear shadow outlining the apex of the right lung (Figure 1). What is the diagnosis?

DISCUSSION

The lungs are normally divided into five lobes by three main fissures (1). Occasionally, invaginations of the visceral pleura create accessory fissures that separate individual bronchopulmonary segments into accessory lobes (1).

An azygos lobe is found in approximately 0.4% of patients (2). In contrast to other accessory lobes, the azygos lobe does not correspond to a distinct anatomical bronchopulmonary segment (1,3). It forms during embryogenesis when the precursor of the azygos vein fails to migrate

Figure 1) Chest x-ray showing a curvilinear shadow spanning the apex of the right lung. 1 Azygos vein. 2 Azygos fissure. 3 Separation of the mesoazygos folds at the chest wall. 4 Tracheobronchial angle

Un curieux lobe

Un cas de lobe azygos est présenté. Un lobe azygos est un lobe accessoire du poumon qui peut parfois être confondu avec un processus pathologique comme une bulle, un abcès pulmonaire ou un néoplasme. Sa pathogenèse est exposée, de même que les caractéristiques radiographiques qui permettent de poser un diagnostic exact.

to its medial position in the mediastinum, where it normally arches over the origin of the right upper lobe bronchus (1-3). This gives rise to the following characteristics, which are visible on a standard chest x-ray (Figure 1): the laterally displaced azygos vein lies between folds of parietal pleura, also referred to as the mesoazygos, where it assumes a characteristic teardrop shape (2,3); the mesoazygos indents the right upper lobe, thereby creating the accessory (azygos) fissure, which is similar in shape to an inverted comma; the fissure delineates the azygos lobe, located superomedially (1-3); laterally, the pleural folds of the mesoazygos separate before reaching the chest wall, resulting in a radiopaque triangular area (2,3); and medially, the tracheobronchial angle appears empty (2) (Figures 2, 3 and 4).

An azygos lobe may be confused with a pathological air space such as a bulla or abscess (2,3). In addition, the abnormally located azygos vein may be mistaken for a pulmonary nodule, while a consolidated azygos lobe may be confused with a mass (3). An understanding of the pathogenesis and characteristic x-ray features of the azygos lobe will enable an accurate diagnosis in most cases (1-3). If the x-ray findings are equivocal, computed tomography will be diagnostic (3).

Figure 2) Computed tomography of the chest (coronal reconstruction) showing the azygos fissure outlining the azygos lobe (asterisk)

¹Faculty of Medicine, University of Montreal; ²Division of Thoracic Surgery; ³Division of Pneumology, Hôpital Maisonneuve-Rosemont, Montreal, Quebec

Correspondence: Dr George Rakovich, Division of Thoracic Surgery, Hôpital Maisonneuve-Rosemont, 5415 boulevard de l'Assomption, Montreal, Quebec H1T 2M4. Telephone 514-252-3822, fax 514-252-3894, e-mail george.rakovich@umontreal.ca

Figure 3) Computed tomography scan of the chest showing the azygos fissure and abnormally located azygos vein. The normal course of the azygos vein is highlighted

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Figure 4) Additional example of an azygos lobe. In this lung cancer patient, the right upper lobe has been removed; the azygos vein (black arrow) and mesoazygos (white arrow) are clearly visible. (The compass is oriented cephalad – the mediastinum is in the background)

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