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Bronchogenic Cyst of Pleural Location: About a Case and a Review of the Literature

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Abstract **Case Report**

Bronchogenic cysts are very rare congenital lesions. Pleural localization is even more rarely documented in the literature. Only histological analysis can confirm the diagnosis, as no clinical or scannographic features are pathognomonic. Surgical removal of the lesion is justified by the risk of complications.

Keywords: Bronchogenic cyst, pleura, surgery, recurrence.

INTRODUCTION

Bronchogenic cysts are aberrant buds of the tracheobronchial tree, most often located intrathoracically, mainly in the mediastinum and rarely intra-pulmonary [1]. Here we present a case of a symptomatic pleural bronchogenic cyst in a 67-year-old man, treated surgically.

OBSERVATION

This was a 67-year-old man, a chronic ex-smoker with 20 pack-years weaned, who consulted for intermittent retrosternal chest pain with exertional dyspnea, evolving for 5 months in a context of conservation of general condition and apyrexia. The clinical examination was unremarkable. The thoracic imaging showed a right paravertebral mass, oval, well limited, with thin and calcified walls (Figure 1). Flexible bronchoscopy was normal. The 18-fluoro deoxyglucose scintigraphy showed a right tissue mass in contact with T10 without invading it, measuring 32×18mm, slightly hypermetabolic (Figure 2). The surgical exploration performed by video-assisted thoracic surgery (VATS), visualized a free lung with the presence of a right paravertebral cystic mass measuring 4 cm resected in its entirety. Macroscopic examination of the surgical specimen revealed a thin-walled cystic formation with whitish gelatinous content, and microscopic examination showed a cystic wall lined with respiratory-type epithelium with the presence of cartilage and seromucous glands, thus concluding that it was a bronchogenic cyst. After two years of follow-up, no recurrence was noted.

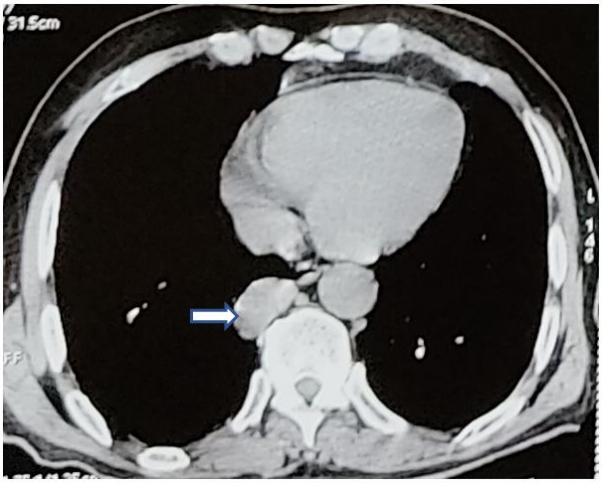

Figure 1: Chest CT scan in mediastinal window without contrast injection, axial slice, showing an oval, well-limited right paravertebral mass with some peripheral calcifications

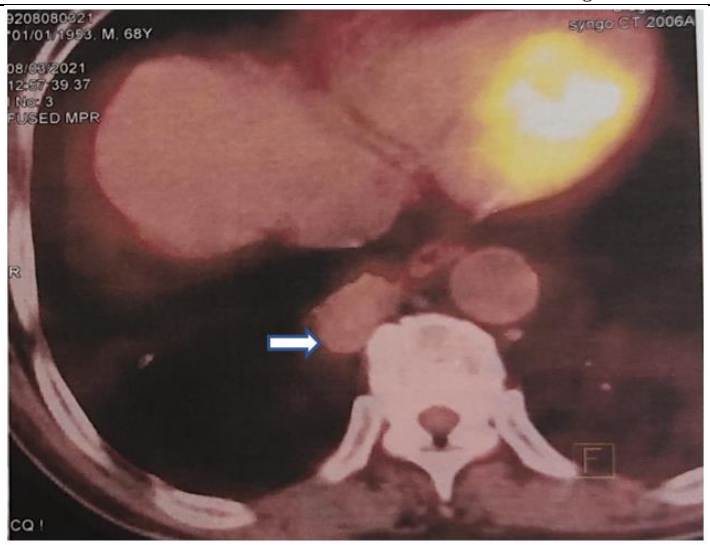

Figure 2: PET scan shows a weakly metabolic right paravertebral tissue mass in contact with T10 without evidence of invasion

DISCUSSION

Bronchogenic cysts are rare congenital malformations originating from an anomaly of migration of the supernumerary bronchial bud of the primitive intestine caudal to the normal bud following the lengthwise growth of the esophagus thus explaining its varied localizations, from the neck to the abdomen [1, 2]. However, their preferential site is the middle mediastinum, but they can also develop in the pulmonary parenchyma, or even in the diaphragm or pleura as in our case [3]. These bronchogenic cysts may be associated with other thoracic malformations such as sequestrations, pulmonary cysts, cystic adenoid tumors and congenital lobar emphysema [4].

Bronchogenic cysts are often discovered incidentally, especially in young males [2]. Indeed, the chest X-ray is the starting point of the diagnostic work-up, showing in most cases a basithoracic opacity, round or oval, with a watery tone and clear contours. The scannographic appearance is that of a single, round or oval, homogeneous mass of variable density depending on the content, with a thin wall that does not enhance after injection of contrast medium and is rarely calcified. The thoracic CT scan can also be used to study the relationship of the cyst with adjacent structures and to look for complications and other malformations [5, 6]. The interest of MRI is indisputable in case of doubt about the liquid nature of the mass, which is hypointense in T1 and hyperintense in T2 [2].

Thus, despite the contribution of imaging, the diagnosis of pleural bronchogenic cyst is rarely made preoperatively and it is only on anatomopathological examination of the resected mass that the diagnosis is confirmed with certainty. This reveals, as in our case, a unilocular cyst with mucoid content, lined with a pseudostratified epithelium with respiratory-type hair cells, which is surrounded by a fibromuscular wall that may also contain hyaline cartilage, glands and adipocytes [2, 7].

Complete surgical resection of the pleural bronchogenic cyst is the treatment of choice even if it is often asymptomatic, in order to specify the site in case of doubt, as in the case of our observation, to confirm the diagnosis, to avoid complications notably infectious, hemorrhagic, as well as malignant degeneration, and to treat the symptoms when they exist [1, 4, 6]. Removal by thoracotomy is the classical approach for complicated and inflammatory cases, currently replaced by video-assisted mini thoracotomy for simple forms (VATS) [4]. Suction puncture under CT control with intra- cystic injection of a sclerosing agent (bleomycin, ethanol) is an alternative to surgery when the surgical risk seems high [8]. The evolution is generally good and complications, such as superinfection and compression, but also perforation of intracystic hematoma and carcinogenesis are exceptional [7].

CONCLUSION

Pleural bronchogenic cyst is a rare congenital lesion of usually incidental discovery. Computed tomography and magnetic resonance imaging allow a better diagnostic approach, but they do not confirm it in any case. Indeed, the diagnosis of certainty is histological, hence the interest of a complete surgical resection in order to determine its nature [1, 7].

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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