Case 16313

Complicated Double Bronchogenic Cysts
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Section: Chest imaging
Area of Interest: Thorax
Procedure: Diagnostic procedure
Technique: CT-High Resolution
Special Focus: Congenital Case Type: Clinical Cases
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Patient: 1 years, female

Clinical History:

The patient arrived at our emergency department with cough, dyspnea, fever and rhinorrhea, showing signs of respiratory distress and decreased vesicular murmur in the left hemithorax. She had a history of repeated respiratory infections since 3 months old. We started antibiotics and requested chest X-Ray and CT.

Imaging Findings:

The X-Ray showed an opacity predominantly atelectatic on the lower third of the lung, as well as a rounded opacity by the left hilum. The trachea is pushed to the right, and there is also a possible compression of the left main bronchus.

The CT demonstrated two hypo-dense nodular images without impregnation, one measuring 2,2x2,2x1,5 cm near the left main bronchus causing impression and reduction of its caliber, and another one measuring 2,0x1,6x1,5 cm localized near the left hilum. It was suspected of bronchogenic cyst and scheduled a surgery for remotion.

The anatomopathological result confirmed bronchogenic cyst from the material of the mediastinal lesion, and infected bronchogenic cyst with chronic suppurative inflammation and granular tissue from the pulmonary lesion.

The patient did not present any complication from the surgery and was released from the hospital without symptoms.

Discussion:

Bronchogenic cysts represent 18% of all mediastinal masses. They are a result of abnormal bronchial budding of the foregut during embryological formation of the lungs, between the 20th and the 40th day of gestation [1]. The moment this phenomenon happens determines the location of the cysts, whether in the mediastinum (most common) if it happens sooner, or in the lungs if it happens later [5,10]. They are usually diagnosed during adulthood, being rarely seen in elder or infants [2,10]. Although mostly asymptomatic, patients may present complications from extrinsic compression or from infection [1].

We found just six cases of double bronchogenic cysts in the literature so far [2,3,4,9,11,13], and, in only four, both cysts were in separate locations, and none had age less than 33 years old [2,3,9,13]. Our case reveal the diagnosis in an infant (1 year and 8 months) of double cysts, one infected in the left lung parenchyma and another one in the mediastinum causing compressive symptoms.

The main reason to request radiologic images and diagnose correctly is based on the importance of solving or preventing symptoms, given that most patients will develop some type of complication over time, such as infection, superior vena cava obstruction, pneumothorax, atrial fibrillation, hemoptysis, or even malignancy [1,2,5,6,12]. Surgical correction must be done as soon as possible, even if the patient remains asymptomatic, and it should be
completely resected in order to avoid recurrence [1,7,8]. In this case, it was decided to perform muscle sparing lateral thoracotomy, removing the infected pulmonary mass with teleobstructive pneumonia from the anterior segment of the left upper lobe, and the cystic lesion in the pulmonary aortic window with reactional aortopulmonary lymph nodes. The patient had no complications and was discharged asymptomatic. This case is remarkable given it had two concomitant bronchogenic cyst with different characteristics. Whilst one was confined in the mediastinum causing compression of the left bronchi, the second was in the lung parenchyma exhibiting signs of infection. Since there was an obstruction of the air way, the infant manifested recurrent pneumonias in the left lower lobe, which led her to consult a doctor numerous times. Therefore, it is essential to highlight the importance of remembering this potential congenital threat when analysing a radiographic double cystic lesion at a age far from standart.

Written informed patient consent for publication has been obtained.

**Differential Diagnosis List:** Anatomopatologic results confirmed both masses were bronchogenic cysts., Enteric cyst, Abscess, Neoplasms, Infected bullas, Vascular malformations, Hydatidosis, Fungal disease

**Final Diagnosis:** Anatomopatologic results confirmed both masses were bronchogenic cysts.

**References:**

Figure 1

Description: Frontal chest x-ray showing one mass near the left hilum, the tracheal displacement to the right, and the partially atelectatic and consolidated left lower lobe suggesting a concomitant mediastinal mass. Origin: Department of Radiology, ISCMPA, Porto Alegre, Brazil.
Description: Lateral chest x-ray showing the partially atelectatic and consolidated left lower lobe, as well as gas inside the hilar mass. Origin: Department of Radiology, ISCMPA, Porto Alegre, Brazil.
Description: Axial CT image showing two rounded soft-tissue density masses. Gas component can be seen in the lesion in the left hilum. Origin: Department of Radiology, ISCMPA, Porto Alegre, Brazil.
Description: Chest computed tomography coronal reconstruction showing two soft-tissue density masses, with important compression from the mediastinal lesion over the left main bronchus, causing left lower lobe atelectasis. Origin: Department of Radiology, ISCMPA, Porto Alegre, Brazil.