RARE FINDING IN A PATIENT WITH RECURRENT EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE - ACCESSORY CARDIAC BRONCHUS

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Objective:

INTRODUCTION:

A 78-year-old male patient with a past medical history significant for recurrent exacerbations of chronic obstructive pulmonary disease (COPD) with emphysematous phenotype and extensive smoking history (75 pack/year) presented with intensive productive cough and increased shortness of breat.

CASE REPORT:

Blood tests other than slightly increased leucocytes were within normal limits. An obstructive pattern at the level of the small airways was observed on spirometry.

Chest x-ray revealed hyperinflation and signs of chronic bronchial changes.

On contrast-enhanced chest computerized tomography severe centrilobular emphysema was demonstrated with a cystic-air appearing area in the right retrocardiac region of the mediastinum which communicates with intermediate bronchus.

Bronchoscopy also showed an intermediate bronchus communication with a large amount of mucus. Bronchial brushing and catheter aspiration of the mucus was also done, sampling mucus and cells. The cytology analysis revealed findings that support a normal airway with infection.

Bronchoalveolar lavage cultures were negative for Mycobacterium spp. but positive of Aspergillus niger and Staphylococcus aureus.

The bronchoscopy and chest CT finding was compatible with the **accessory cardiac bronchus** (ACB), laying parallel with intermediate bronchus and arising from its medial wall with infected correspondent emphysematous lobule, blood vessels and fissure.

Ventilation single-photon emission computerized tomography (SPECT) performed with Tc99m-Technegas confirmed the presence of the ACB with belonging ventilated parenchyma.

After antibiotic treatment as per antibiogram, the patient's symptoms diminished with overall clinical improvement.

An ACB was defined by Brock in 1946. It is lined by normal bronchial mucosa and contains cartilage within the wall, which is a distinguishing feature to bronchial diverticulum or acquired fistula.

ACB has been described mainly as an isolated finding with a frequency of 0.08 %. Even though 50% of all reported ACBs have a blind extremity (Type 1), they may end in vestigial or rudimentary bronchiolar parenchymal tissue with cystic degeneration (Type 2, in 25%), or a ventilated lobule demarcated by an anomalous fissure (Type 3, in 25%) and extremely rare with an abnormal pulmonary artery.

Most patients with ACB are asymptomatic. However, an ACB can become symptomatic due to recurrent infection, empyema, hemoptysis, and malignant transformation. These conditions occur especially when the ACB is long or has an accessory lobe. Surgical resection is sometimes warranted.

CONCLUSION:

In conclusion, both pulmonologists and radiologists should recognize normal bronchial anatomy as well as developmental bronchial anomalies as these may be important to establish a correct diagnosis which will lead to correct therapy approach.