ENDOBRONCHIAL TUBERCULOSIS PRESENTING AS A BRONCHOCELE

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Introduction

A bronchocele is a dilated mucous or pus filled bronchus secondary to obstructive pathology with collateral air drift which allows the affected lung to remain aerated and has a characteristic radiographic appearance [1]. A case of bronchocele as a result of endobronchial tuberculosis is presented.

Case Report

A sixty year old woman presented with history of cough and expectoration of two months duration. She had 5-7 episodes of streaking of sputum with fresh blood. There was no history of fever. She had been treated with a full course of ATT for pleural tuberculosis in 1998. On examination she was of an average built and nourishment. She had no evidence of icterus, clubbing or lymphadenopathy. Chest expansion on full inspiration was 3 cm. She had bronchial breath sounds in right interscapular, axillary and infraclavicular regions. Routine investigations were within normal limits, ESR : 22 mm fall in the first hour by Wintrobe's. Sputum was negative for AFB, on sputum culture *Klebsiella pneumoniae* was grown for which suitable antibiotics were administered.

Chest radiograph revealed a well defined smooth rounded opacity measuring 26 mm in diameter in right parahilar region (Fig 1). CT scan chest revealed an intraluminal soft tissue mass having attenuation value 44-72 HU in the right main bronchus. The branches of right upper lobe bronchus showed saccular dilation and were filled with secretions (Fig 2). Dedicated CT sections were repeated on subsequent day after the patient had coughed several times but there was no change in findings. CT findings were of a bronchocele secondary to an intraluminal growth. Fibre optic bronchoscopy revealed a pedunculated growth having whitish surface without ulceration blocking the right upper lobe bronchial opening. Biopsy revealed ciliated pseudostratified columnar epithelium with overlying inflammatory cells and caseous necrosis, partially necrotic epithelioid cells were also seen. No malignant cells or fungal elements were seen. Findings were suggestive of tuberculous etiology.

Discussion

Bronchocele may be caused by an abnormal or excessive mucous production, such as in cystic fibrosis or bronchial asthma. Muroid impaction is a term often used for bronchocele formation in which no

anatomic obstruction is present [1]. A bronchocele may also result from bronchial occlusion as a result of accumulation of secretions and pus in the segmental or subsegmental bronchi distally. The obstruction may be congenital or due to endobronchial tumour, inhaled foreign body, inflammatory structure or extrinsic compression. The typical appearance on the chest radiograph is a group of oval or cigar shaped shadows, which may appear to branch along the axis of bronchial tree and point towards the hilum [2,3]. It may present as pulmonary opacity, posing problems of differential diagnosis of malignancy [1], as seen in this case, the endobronchial mass was of tuberculous etiology resulting in bronchocele.

The possibility of a mucous plug or pseudotumour must be considered and distinguished from true tumours. One can distinguish between these possibilities by repeating the appropriate sections after the patient has coughed several times on the same or subsequent day. It will then be found that the position or

Fig. 1 : Chest topogram shows bronchocele seen as rounded parahilar opacity.

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Figs. 2a & b : CT scan chest shows bronchocele (a) on lung window as saccular dilatations radiating from the right hilum. A soft tissue mass is seen protruding into the right main bronchus (b) as seen on mediastinal window

appearance of the mucous plug has altered, or has disappeared completely. The endobronchial mucoid collections never enhance after bolus contrast medium [4,5] and this phenomenon occurs primarily in older patients.

Congenital bronchial atresia is a rare anomaly that presents as bronchocele which results from congenital focal obliteration of a proximal segmental or subsegmental bronchus with normal development of distal structures. The short atretic segment leads to accumulation of mucous within the distal bronchi to form a bronchocele. It is characterized by the presence of a branching opacity, radiating from the hilum surrounded by an area of hyperlucency. These features can be recognized on the chest radiograph but are more clearly defined by computed tomography [6].

CT is a valuable tool with good sensitivity in diagnosing bronchocele.

The etiology of the abnormality however represents

an important problem to be solved [2]. Needle aspiration biopsy [1] or bronchoscopic biopsy is often necessary as seen in this case to clinch the diagnosis.

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