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Case Report

BRONCHIECTASIS SICCA: A CASE REPORT

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ABSTRACT:
Bronchiectasis is a permanent abnormal dilatation of bronchi & bronchioles. The disease is characterized by copious amount of productive cough with chronic ill health. This is due to continues infection by the opportunistic organisms in the abnormally dilated bronchial tree. Bronchiectasis sicca or dry bronchiectasis is a very rare condition in which there are all the features of bronchiectasis except for the absence of copious amount of sputum which is usually a hall mark of bronchiectasis. We are presenting a case report of an 8 years old girl who presented with history of cough since two years of age and failure to thrive. She was diagnosed as a case of pulmonary tuberculosis & treated adequately. Later she developed cough which was initially productive but for the last two years it had become mostly non productive with occasional episodes of productive cough. CT scan and bronchography confirmed extensive bronchiectasis involving the whole left lung. Child had two episodes of haempotysis. Bronchoscopic evaluation showed classical features of bronchiectasis except for minimal amount of clear secretions and no pus in the tracheobronchial tree.

KEY WORLD: Bronchiectasis, Dry, Sicca, Haempotysis, Tuberculosis

INTRODUCTION

Dry bronchiectasis is a rare condition in which abnormal dilatation of tracheo-bronchial tree is present with out production of infective sputum[1]. The condition has scarcely been reported. As children with dry bronchiectasis may not produce large amount of sputum the diagnosis may be delayed due to absence of classical symptoms. These children usually present with haemoptysis[2]. In children with persistent cough and any episode of haemoptysis bronchiectasis shall be placed in the differential diagnosis. It has been suggested that bronchiectasis secondary to tuberculosis may be dry especially if is affecting the upper lobes [3].

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CASE REPORT

An 8 years old female child was brought with history of recurrent chest infections & failure to thrive since two years of age. The cough was initially productive but over the past two years it had become mostly non productive. The child received full two-year treatment in proper doses for tuberculosis after confirmation of diagnosis by standard investigations. The condition however deteriorated and she continued to have poor health and had two episodes of Haempotysis. On examination the child was malnourished and below 3rd centile for height

Figure 1: Bronchogram showing extensive bronchiectasis of left lung

and weight. X-ray chest & CT scan chest showed classical signs of bronchiectasis involving the whole left lung. Bronchoscopy performed on the patient showed normal trachea, right main stem & subsequent bronchi. Left main & subsequent bronchi were grossly dilated showing features of advance bronchiectasis. Clear secretions were present in the tracheobronchial tree without even slightest amount of puss. Video recording of the procedure was performed to record the findings. Bronchography was also performed in the same anesthesia that showed classically spindle shaped bronchial apparatus affecting the whole left lung. Sweat chloride & test for cystic fibrosis was done which was negative. CT scan did not show any evidence of a congenital lesion responsible for bronchiectasis in the child. Presence of foreign body was excluded by bronchoscopic examination. Diagnosis of bronchiectasis secondary to tuberculosis was made. As there were no secretions present the final diagnosis of bronchiectasis sicca was made. The child was put on conservative treatment for about four months with antibiotics, chest physiotherapy. There was no improvement in symptoms of cough and poor health. Later Pneumonectomy was planned on the affected side. Exploration revealed a solid lung tissue with lot of surrounding adhesions & fibrosis suggesting a chronic inflammatory process. Left Pneumonectomy was performed. On opening up of the specimen there was little pulmonary tissue left & dilated bronchi formed most of the lung tissue. Amazingly negligible amount of pus was seen in the dilated bronchial apparatus. Histology showed features suggestive of chronic non specific inflammation with no evidence of granuloma. Child had an uneventful postoperative recovery & after six months follow-up she is showing steady improvement in her cough and is gaining weight.

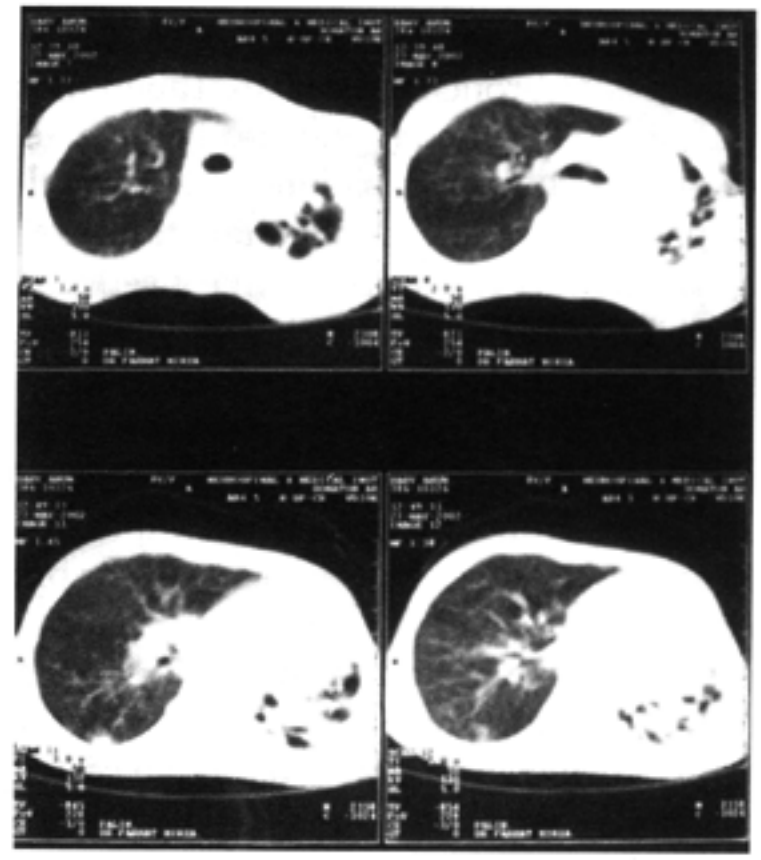

Figure 2: CT scan showing extensive bronchiectasis of left lung

DISCUSSION

Bronchiectasis is a chronic abnormal permanent dilatation of bronchi & bronchioles. It is characterized by chronic ill health, cough & copious amount of sputum. Productive cough is a hallmark of bronchiectasis[4]. Usually large amount of yellowish green sputum is produced

especially in the morning. In children the common causes of bronchiectasis are tuberculosis, cystic fibrosis, retained foreign bodies, congenital anomalies like cystic adenomatoid malformations, immunodeficiency states, immotile cilia syndrome, bronchopulmonary sequestrations, to mention a few[1,3,5,6]. Whatever the underlying pathology may be, a chronic inflammatory condition progressively destroys the bronchial cartilage leading to permanent dilatation of the bronchial apparatus. Superadded infections in the diseased segments of the bronchi encourage bacterial overgrowth of opportunistic organisms and suppuration. This is reflected in the form of productive cough & copious greenish sputum. Productive cough is a hall mark of bronchiectasis & its presence is strongly suggestive of bronchiectasis. Recently however cases have been reported where a state of chronic cough & ill health prevails and sputum production is either minimal or totally absent[3]. These cases have typical dilated bronchial apparatus as seen in bronchiectasis. The disease has been identified as dry bronchiectasis or bronchiectasis sicca. It usually is preceded with an underlying pathology leading to bronchiectasis, usually tuberculosis in our setup. Haemoptysis is a common presentation in children with dry bronchiectasis. Whatever the presentation may be; in dry bronchiectasis the radiological, bronchoscopic & bronchographic findings are classical of bronchiectasis except for absence of sputum production [7,8].

Our patient represents a classical case of bronchiectasis sicca. Although we were unable to confirm the underlying cause of bronchiectasis but the clinical picture is classical of post tuberculosis bronchiectasis. It has been suggested that bronchiectasis secondary to tuberculosis may be dry when it involves the upper lobes, as there is adequate drainage of secretions therefore recurrent infections does not occur[9]. If that is the case then many children who remain symptomatic after adequate treatment of pulmonary tuberculosis may have dry bronchiectasis which is missed because of absence of sputum production. The number of children undergoing surgical resection for bronchiectasis is very high even in the developed countries & more so in our setup due to various pulmonary ailments including tuberculosis, retained foreign bodies, cystic Fibrosis & other congenital anomalies [10,11,12,13]. The management of Bronchiectasis has been changed over the last few decades from surgical resection to a more conservative approach[14,15]. It has been suggested that if aggressive conservative management in the form of chest physiotherapy, postural drainage, prophylactic antibiotics and treatment of primary cause is instituted the dilatation of the bronchi may be reversed. Whether this hold true for dry bronchiectasis has to be established. These children do not have lot of pussy secretions. The lung tissue may be so damaged that body response is probably not there. In these cases conservative treatment probably will have very limited role & early surgery may have to be instituted to avoid complications in the other pulmonary segments. It is however too early to make recommendations on isolated cases alone and more studies are necessary to standardize the management of children with dry bronchiectasis.

In summary dry bronchiectasis is an uncommon condition but is probably missed due to the lack of awareness. In children with pulmonary tuberculosis who have persistent dry cough after adequate treatment; Bronchiectasis sicca shall be included in the differential diagnosis. Early treatment by resection of the affected segment may help in alleviation of symptoms and avoidance of complications.

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