

A Rare Case Report of Bronchiectasis Due To Unsuspected Foreign Body

Dr. N. Gopichand¹, Dr. C. Sumalatha*²

¹Associate Professor, ²Post graduate, Department of Pulmonary Medicine Siddhartha Medical College, Vijayawada, Andhra Pradesh, India

*Corresponding Author:

Name: Dr .C. Sumalata

Email: drsumachittiboyina@gmail.com

Abstract:Bronchiectasis is a condition in which lungs are abnormally stretched and widened and is caused by obstruction of the airway in form of mucous, foreign body, etc. It can be congenital or acquired. It can affect focally or diffusely. We report a rare case where bronchiectasis was due to obstruction by impaction of tooth in the airway. A 65 year old smoker presented to a chest physician for recurrent episodes of cough, and fever. He was examined and was investigated accordingly. High Resolution Computed Tomography showed focal bronchiectasis in right inferior lobe. An approach to Bronchoscopy and HRCT chest was made to rule out foreign body which was tooth.

Keywords:bronchiectasis, foreign body, tooth.

INTRODUCTION

Rene Laennec who invented stethoscope, first described bronchiectasis in 1819 in a patient with tuberculosis and in sequelae of pneumonia. Bronchiectasis is characterised by the dilatation of bronchi with destruction of elastic and muscular components of their walls. The stretched and widened bronchi lead to mucus accumulation, allowing bacterial growth thus leading to infection. Accompanying enlargement of the bronchi with decreased ability to clear secretions allows microbes and particles to collect in them which lead to more and more secretions and inflammation further damage the airway causing more dilatation in a vicious cycle. Bronchiectasis can occur congenitally or may be acquired. It can develop at any age. Bronchiectatic changes can be focal or diffuse. Here we report a rare case, where bronchiectasis was due to impaction of tooth in airway.

Foreign body aspiration in tracheobronchial tree cause significant morbidity and mortality. Unresolved pulmonary infections should raise the suspicion of aspirated foreign body which may not always be present in history. Focal bronchiectasis may be due the result of blockage of bronchial lumen by a foreign body, tumour, or as a result of extrinsic compression of the bronchi.

CASE REPORT

A sixty five year old smoker presented to chest OP for several episodes of cough, fever, over 3 years. He occasionally had haemoptysis. His family members were healthy. He remembered a loose tooth on right side and suffered with it for a long time. Three years back on night he had a severe choking episode

associated with dyspnoea and noticed there was no tooth hanging in the mouth. He presented to many physicians regarding cough, haemoptysis and shortness of breath. On physical examination, he was pale and had clubbing of fingers. He had coarse crepitations in the right infra axillary, right infrascapular regions. There was also decreased air entry in the above mentioned areas. He was investigated with Chest X-ray Postero-anterior view, HRCT chest, Bronchoscopy and some routine investigations (Fig-1 to Fig-4).

Results

His routine investigations were as follows.

Hb-10gm/dl

Total leucocyte count-8800/cc

Differential Count shows polymorphs-70, monocytes-27 and eosinophils-3

ESR—10 mm/hr

Random blood sugar—110mg/dl

Blood Urea-22mg/dl

Serum creatinine—0.8mg/dl

Chest x-ray postero –anterior view showed honey combing pattern and fibrosis in the right lower zone suggestive of bronchiectasis. Radio opaque tooth like structure seen in the right lower zone.

HRCT chest shows- honey comb pattern and dilated bronchi in the inferior lobe of right lung. A radio opaque foreign body noticed in the right posterobasal bronchus

Bronchoscopy revealed lot of granulation tissue and impaction of mucus and pus in the bronchus leading to lateral basal and posterobasal segments.

As our set-up did not support further management was not done except for antibiotics and physiotherapy which gave him relief temporarily.

Sputum examination did not reveal acid fast bacilli in ZiehlNeelson staining .

Sputum on culture showed Streptococcus pyogenes.

Sputum did not show any malignant cells in the cytology



Fig-2: The foreign body is seen in the right bronchus intermedius on HRCT.

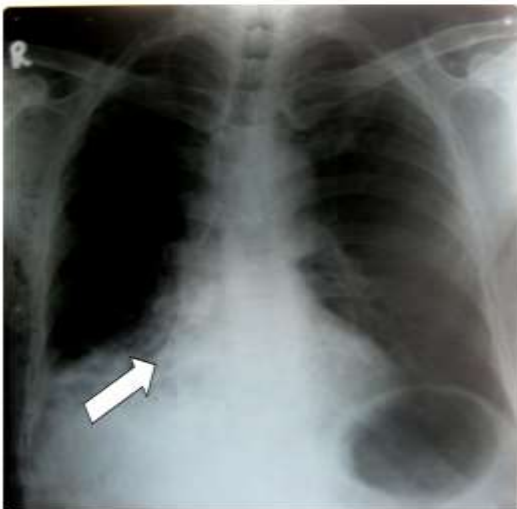


Fig-1: The arrow indicating the radio opaque foreign body which subsequently found to be tooth.



Fig-3: The arrow showing the tooth .



Fig-4: Bronchiectatic changes occurring in the basal segments and also in right middle lobe.

DISCUSSION

If bronchiectasis is not due to destructive lung lesion like tuberculosis, chronic suppurative lung disease, then the cause would be obstruction due to foreign body or

impacted pus or mucous[1].In the above case, the patient had been suffering from a long time. He was not diagnosed properly and was managed in lines of pneumonia and suppurative lung infection. His

radiological investigations were of much use and helped us manage him in that line. As our set-up did not support further management, nothing was not done except for antibiotics and physiotherapy which gave him relief temporarily. We could not remove the impacted tooth found in bronchoscopy as it was difficult and mucosa was bleeding. There are many cases reported previously in children where the foreign body ranged from grass, seed, toy parts, bone, tooth etc.[2].Such cases are usually seen in children and this presentation is rare where a tooth is seen in adults.

Symptoms may vary depend on location and size of the foreign body in the airway[3].Focal bronchiectasis almost always requires diagnostic bronchoscopy[4].Foreign body in the airway usually presents with choking signs, persisting wheeze, shortness of breath, cough, purulent sputum and haemoptysis .On prolonged standing they may develop bronchiectasis at distal segments ,suppurative lung infections and sometimes subcutaneous emphysemas[5].The time taken between the aspiration of foreign object and development of bronchiectasis is not known. Post obstructive bronchiectasis is localised rather than diffuse. It may take months to years[6].The chest radiograph may demonstrate variety of findings such as air trapping ,atelectasis, consolidation and unilateral aeration[7]. Sometimes the inhaled foreign body with granulation tissue may mimic Bronchogenic Carcinoma[8].In the above case ,malignancy was ruled out with sputum for malignant cells ,normal Bronchoscopy except for right basal segments which showed foreign body, and normal HRCT in other zones, except for right basal segments showing bronchiectasis. In the above case, CT provided more information than radiograph. Computed Tomography characterise the attenuation of suspected foreign body and it is more specific[9].The patient was referred to higher centres for further management, that is segmental resection and he improved later.

CONCLUSIONS

A prolonged history of cough and sputum with shortness of breath should also look for retained foreign body along with other causes. A proper history and prompt investigation would help in early diagnosis and may save many patients from lung resection surgeries[10].

REFERENCES

1. Kurklu EU,Williams MA, le Roux BT; Bronchiectasis consequent upon foreign body retention British Medical Journal Thorax, 1973;28:601-602
2. Laurance MB;Haemoptysis, bronchiectasis and Foreign body in the lung.British Medical Journal, 1954; 125-126.

3. Kahraman C,Oguzkaya F,Akcati Y, SahinA; Lung Infection due to Aspirated Foreign body:Analysis of 84 cases. Sage Journals Asian Cardiovascular and Thoracic Annal, 1999 ; 7(4): 305-308.
4. Cantin L,Alexander AB, Eisenberg RL; Bronchiectasis. American Journal of Roentgenology, 2009; 193(3).
5. Wani NA, Qureshi UA, Kosar T; Subcutaneous emphysema due to bronchial foreign body demonstrated by multi-detector row computed tomography .Lung India, 2011;28(4)291-293.
6. Dikensoy O, Usalan C, Filiz A; Foreign Body Aspiration: Clinical Utility Of Flexible Bronchoscopy. Postgraduate Medical Journal, 2002;78:399-403
7. Zerella JT,Dimler M, Mc Gill LC, Pippus KJ; Foreign Body aspiration in children:value of radiography and complications of bronchoscopy.J paediatricsurg, 1998;33:1651-4
8. Nigam BK; Bronchial Foreign body masquerading as a lung carcinoma. Indian J Chest Dis Allied Sci.,1990;32:43-7.
9. Kim M, Lee KY, Lee KW, Bae KT; MDCT evaluation of foreign bodies and liquid aspiration pneumonia in adults. American Journal of Roentgenology, 2008; 190(4):907-915.
10. Kaw RK, Golish J, Ghamande S, Foldvary N, Burgess R, Walker E; Incremental risk of obstructive sleep apnea on cardiac surgical outcomes. CHEST Journal, 2006; 130(4_MeetingAbstracts):186S-c.