Case Reports

FORGOTTEN FOREIGN BODIES IN BRONCHIAL TREE IN ADULT (A REPORT OF TWO CASES AND REVIEW OF LITERATURE)

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Introduction

Aspirations of foreign bodies into bronchial tree is rare in adults compared to children [1]. In adults foreign body aspiration is usually immediately identified as the episode occurs [2]. However, off and on reports appear in literature when even large foreign bodies have been aspirated by fully conscious adults without remembrance of the episode [3,4]. Subsequent sequelae like recurrent infections, lobar collapse or bronchiectasis may bring to light the presence of foreign bodies [5]. We present two such cases treated at our centre.

Case Report-1

A 29 year old male soldier from Nepal presented in June 98 to a peripheral hospital with complaints of right-sided pleuritic chest pain, cough with mucoid expectoration and moderate fever with chills for 3 days. He gave history of pneumonia on right side in April 97. He was febrile. There was clinical and radiological evidence of pneumonia of right lower lobe with a small pleural effusion. Investigations showed a leucocytosis of 10,600/cmm with 78% polymorphs. Pleural aspirate was exudate with predominant cells being polymorphs. Culture of aspirate was sterile. He was treated with parenteral antibiotic combinations. He became asymptomatic after 3 weeks but there was residual pleural thickening on chest X-ray.

He again became symptomatic after two months with recurrence of pneumonia at the same site (Fig-1). He was treated with a course of antibiotic with which there was partial resolution and he was transferred to a referral chest disease centre. A fiberoptic bronchoscopy done there, showed evidence of extensive granulation tissue in right main bronchus and a "feel" of a foreign body beyond that area but the same could not be confirmed.

At this centre also even on persistent questioning he denied any history of foreign body aspiration, drunken spell, epilepsy or general anaesthesia. A CT scan chest (Fig-2) showed bronchial wall thickening and partial obstruction of lumen of right main bronchus with high attenuating lesion. There was air trapping in right lower lobe. On fiberoptic bronchoscopy, it was confirmed that there was a foreign body impacted in the right main bronchus but only its tip

was visible and it was well surrounded by granulation tissue. Finally, using a rigid bronchoscope under general anaesthesia a partial base of denture, 4.5 cms in length was removed (Fig-3). On persistent probing, the patient recalled that he had been given a partial denture in October 1995 after he had lost his lower incisor teeth following an accident. A few months later, he lost that denture during a train journey. He was then given another denture, which he was still using. Following foreign body removal, he recovered completely.

Case Report-2

A 32 year old soldier was investigated for extensive right lower lobe bronchiectasis. Fever with foul expectoration had been recurring for 6 months despite treatment with antibiotics etc. at various hospitals. Clinical and radiological examination confirmed extensive right lower lobe bronchiectasis (Fig-4). The patient denied

Fig. 1 : Right lower lobe pneumonic consolidation

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Fig. 2 : CT scan thorax : thickened wall and granulation tissue right bronchus (foreign body non radio-opaque)

Fig. 3 : 4.5 cm long base of denture removed from right bronchus

any history suggestive of a foreign body aspiration. He also had no predisposing factor for the same. He was referred for surgical excision. Fiberoptic bronchoscopy was done, which revealed a hard concretion blocking the bronchus intermedius. This hard object was caught with a grasping forceps and removal was attempted. There was bleeding, oozing of pus and fiberoptic bronchoscopy vision was poor when the foreign body was pulled out; it was stuck in the nasopharynx. The patient was asked to cough as the forceps grip was loosened. It was a surprise to see that the foreign body was a large part of a bone (goat vertebra) (Fig-5). On subsequent questioning the patient admitted to have had a prolonged episode of coughing nine months ago when he had a mutton biryani meal along with alcohol.

Discussion

Tracheobronchial foreign body may be defined as any solid object aspirated below the level of vocal cords [2]. Foreign body aspiration is frequently suspected in children with acute or recurrent pulmonary symptoms. However, it is rarely considered in adults with subacute or chronic respiratory symptoms, unless

Fig. 4 : Right lower lobe bronchiectasis and pneumonia (foreign body not well visualised)

Fig. 5 : Large piece of bone removed from right bronchus

the patient gives a clear history of an aspiration event. The most important factor in detection of a tracheobronchial foreign body is a high index of suspicion [2].

Forgotten episode of a foreign body aspiration in adults may remain undetected for years. These cases are usually diagnosed as chronic pneumonia [6], bronchiectasis [1] and lung abscess or rarely as malignancy. The longest bronchial foreign body retention in an adult recorded in medical literature is 40 years [2]. Radiolucent foreign bodies may be missed on routine chest X-ray [7]. This happened in both our cases. In the second patient perihilar structures in chest X-ray masked the foreign body. Commonly aspirated tracheobronchial foreign body are bone fragments including fish bones [4], organic matter like peanuts,

corn and beans [8] as well as straight and safety pins [2]. There are also reports of aspiration of cobbler's shoe nail [6], teeth [9], stones, coins and buttons [2].

Lodgment of a foreign body is more common in the right side due to anatomic structuring especially in the intermedius and basal bronchi [2]. Precipitating factors include altered consciousness, fits, dental procedures, facial trauma and intubation [2]. Many patients do not have any precipitating factors. In our first case, no precipitating factor was obvious while second case had alcohol intake prior to a non-vegetarian meal. Recurrent infection caused by the impacted foreign body is usually localised to a lobe as was seen in both our cases.

Pieces of denture are not infrequently aspirated by adults, but the long term unsuspected presence in an airway is uncommon. In such cases, a history of seizures or alcohol consumption is usually present [10]. It is important to remember that chronic unexplained respiratory symptoms with lobar consolidation, collapse or bronchiectasis appearing in an otherwise healthy adult should alert the clinician for investigations to exclude a retained foreign body in tracheobronchial tree. Finding of granulation tissue on bronchoscopy is also an important clue to the presence of foreign body as occurred in our first case.

Definitive treatment of tracheobronchial foreign body aspiration is removal as soon as possible [2]. Chronic sequelae like bronchiectasis may persist and need further management. Granulation tissue may cause difficulty in diagnostic recognition of foreign body and interfere with removal as occurred in our cases. It is stressed that foreign body removal is safer

and preferred with rigid bronchoscopes in most situations.

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