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RIGID BRONCHOSCOPY FOR BRONCHIAL FOREIGN BODY REMOVAL: ANAESTHETIC CHALLENGE

Anaesthesiology

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ABSTRACT

Tracheobronchial foreign body aspiration is relatively uncommon but life threatening event in adult. It is a considerable source of morbidity in adults. Early diagnosis and intervention can save many adverse outcomes. Signs and symptoms of foreign body aspiration may vary and are often nonspecific, requiring high degree of clinical suspicion to establish early diagnosis. The gold standard to establish diagnosis as well as management for foreign body aspiration is bronchoscopy. We report a case of 25 year old female with foreign body left bronchus who presented with subcutaneous emphysema over face and neck. Rigid bronchoscopy was done and foreign body was removed successfully without any postoperative complications.

KEYWORDS

tracheobronchial, foreign body bronchus, rigid bronchoscopy

INTRODUCTION

Foreign body aspiration is a potentially life threatening emergency[1-5] that is more common in children[1,6,7] but can occur at any age[3] . It accounts for 0.16-0.33% of bronchoscopic procedures in adults.[8] Adults represents about 25% of cases of accidental foreign body aspirations.[9] Clinical presentation depends on type of foreign body aspirated, its location in airway, duration between diagnosis and aspiration as well as reaction of host to foreign body.[10] Patient may present with chronic cough, recurrent pneumonia, non resolving wheezing, chest pain and hemoptysis. Non operative techniques for management may include bronchodilator inhalation and postural drainage but may be associated with risk of dislodgement and complete airway obstruction. Bronchoscopy is considered as the mainstay for diagnosis and management of patient with foreign body aspiration.

CASE REPORT

25 year female patient came with history of ingestion of foreign body 3 days back. There was no complain of respiratory distress but the patient complained of gradual progression of hoarseness of voice and swelling over the face and neck. Patient was a known case of hypothyroidism since 11 years and was on regular treatment with Tab. Thyroxine 100 mcg OD. On examination, patient was conscious and oriented, with swelling over face and neck and subcutaneous emphysema over neck. MPG (mallampatti grade) was grade 3.

On chest auscultation, bilateral rhonchi were present with decreased air entry on left side. HRCT chest showed hyperdense foreign body of approximate size 8x5mm in left main bronchus with extensive pneumomediastinum and mild to moderate soft tissue emphysema in bilateral chest wall region, supraclavicular and infraclavicular region. NCCT Neck showed extensive emphysema in all visceral neck spaces , bilateral cheek region , bilateral periorbital region and ITF (infratemporal fossa) region.

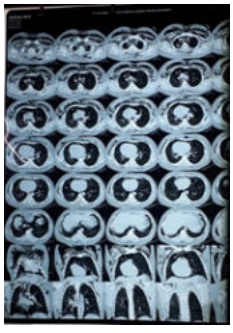

Figure 2 : HRCT Chest

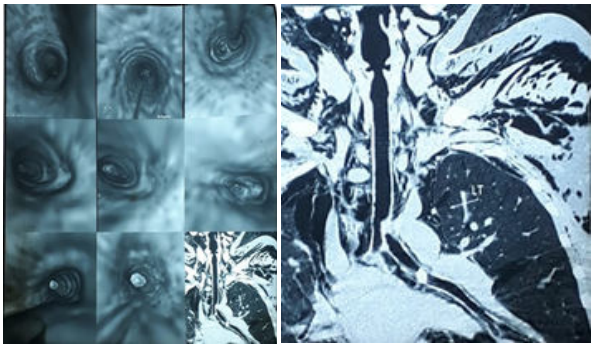

figure 3 and 4 : Image showing foreign body in left bronchus

Echocardiography was done which was normal.

Investigations: Hb 7.4gm%, Platelet count 2.6 lac, PT/INR 13.5/ 1.0. After obtaining informed and written consent, patient was shifted to OT. In the operating room, all routine monitor (ECG, SpO_2 , NIBP) were attached and IV line was secured. Pulse rate was 98/min, BP was 128/80 mmHg and SpO_2 was 90% on room air. Preoxygenation was done for 3 minutes with 100% oxygen. Induction was done with Inj. Glycopyrrolate 0.2mg IV, Inj. Fentanyl 80mcg IV and Inj. Propofol 80mg IV. After check ventilation, Inj. Succinylcholine 75mg IV was given. Under DL(direct laryngoscopy), vocal cords visualized and rigid broncoscope introduced and handed over to ENT sugeon. Breathing circuit was attached to the ventilation port of bronchoscope

and manual ventilation done. Anaesthesia was maintained with sevofluorane in oxygen, nitrous oxide and positive pressure ventilation. Boluses of fentanyl and propofol were given intraoperatively. During the procedure, few episodes of desaturation occurred with saturation dropping to 80-85% when bronchoscope was removed and face mask ventilation was resumed. After localizing the foreign body in the left bronchus, it was removed using grasping foreceps and bronchoscope was removed and spontaneous ventilation was resumed. After successful recovery from anaesthesia, patient was nebulised with adrenaline solution and was shifted to post op recover room. Post operative period was uneventful.

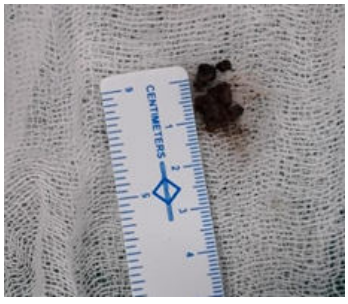

figure 5: foreign body after removal

DISCUSSION

Tracheobronchial foreign bodies can present with varied symptomatology and the diagnosis is based on clinical suspicion, signs and radiological findings. In children, aspirated foreign body are commonly found in proximal airways because of smaller airway diameter whereas in adults, 43% are found in proximal airways.[9] Aspirated foreign body can pass the central airway passages and may go either in the right or left main bronchus or their subdivisions leading to chronic obstructive symptoms. Bronchoscopic removal is the treatment of choice in most of the cases and it should be performed after careful planning by experienced surgical and anaesthetic teams under optimal conditions. The foreign body itself as well as the bronchoscopic procedure may lead to several complications. The most frequently observed complications being pneumonia, atelectasis and emphysema. Therefore, early diagnosis and intervention are required.

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