ORIGINAL RESEARCH PAPER

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FOREIGN BODY ASPIRATION WITH ANOMALOUS PRESENTATION

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ABSTRACT

Aspiration of foreign bodies into the respiratory passage is encountered quite commonly in children and present as a surgical emergency with feature of acute airway obstruction. We report a case of bronchial foreign body in a 3-year-old male child, in right bronchus with pathological findings in left lung. Foreign body was removed successfully, and the patient improves.

INTRODUCTION:

Foreign body aspiration is a common surgical problem in children of two to three years of age. [1] Children younger than 3 year of age account for about 73% of cases [2] with a 3:1 male preponderance. [3]

Foreign body in airway can cause asphyxia, cardiac arrest, obstructive dyspnea, laryngeal or glottic edema and loss of consciousness as early complications, [4] and secondary infections and obstructive bronchiectasis as late complications. [5]

Complications usually depend on site, size, shape, nature and duration of the foreign body. [6]

Various types of foreign bodies associated with aspiration can be: [7]

Vegetable matter (>75%) in which Peanut, almond, other dry fruits are more common. Betel -nut, seeds gram, peas, millet, pine-nuts, popcorn, bone, etc. are less common and **Inert material (<25%)** like metallic objects, pen caps, beads, whistle, pins, nails, screws and dislodgeable parts of toys etc.

In infants and smaller children, the rigid bronchoscope is the instrument of choice as it allows better ventilation and control of the airway. [8] Organic FBA like nuts, grams, maize and seeds which are vegetativemay enlarge with moisture content and may be easily broken into pieces during bronchoscopy. They can be asymptomatic initially and can cause complications later. [9]

CASE HISTORY:

A 3 year male child presented in the emergency ward of our hospital with chief complaints of fever for 3 days, 15 days back, cough for 15 days and difficulty in breathing for 2 days. The child had taken OPD based treatment in the form of oral antibiotics and bronchodilators (both oral and inhalational) for about 7 days after which he improved. The complaints reappeared after a gap of 4 days when he presented to us, but this time the child was afebrile.

Child was in moderate respiratory distress maintaining SPO2>94% on oxygen by rebreathing mask @ 4lit/min.

On examination, chest was bilaterally symmetric with significantly decreased air entry over middle and lower left lung zones with mild signs of bronchoconstriction and coarse crepitation.

Chest X-ray (PA view) was done (**Figure 1**) which showed features of consolidation over left side and right sided hyperinflation which was confirmed on USG chest as consolidation in middle and lower left lung zones. Provisionally considering as community acquired pneumonia, a trial of antibiotics and rigorous nebulization was started which improved the clinical condition within 48 hours and the chest X-ray within 7 days.

The child took discharge on request after completing intravenous antibiotics for 7days, on oral antibiotics and oral bronchodilators with chest X-ray clearance at discharge.

After 6 days, child got readmitted with complaints of increasing cough and severe respiratory distress for 2 days. Child was cyanosed and presented with inspiratory stridor and audible wheeze. Examination findings suggested grossly decreased air entry on right side .Chest X-ray (**Figure 2**) this time suggested right sided homogenous opacities. Urgent bronchoscopy was planned to keep the strong suspicion for foreign body aspiration and a putrefied bengal gram was removed from right bronchus into two halves.

The patient improved and was discharged successfully after 3 days. Chest X-ray was done showing clear lung field (**Figure 3)** and patient was called for follow up and is doing well.

DISCUSSION:

Foreign body aspiration is a serious medical condition which demands timely recognition and prompt action. Violent paroxysm of cough, choking, gagging is the typical presentation. But in rare cases, they may present as chronic cough or non-resolving pneumonia without any obvious history of an acute event.

Such anamolous presentation could be explained under the following hypotheses:

Hypothesis 1: Partial obstruction of right bronchus due to small size of the gram lead to pooling of secretions over left bronchioles and alveolar parenchyma. This camouflaged the initial signs and symptoms of right sided foreign body obstruction. Also, the regular intake of inhalational and oral bronchodilators suppressed the bronchoconstriction to an extent. With time the pooled-up secretions got infected due to the vegetative nature of the foreign body and presented as consolidation.

The second hospitalization presented as severe acute event and classical presentation of complete obstruction because of swollen bengal gram.

These organic F.B can swell and cause local edema and inflammatory reactions. Fusfus (dried, roasted, salted watermelon seeds) cause less inflammatory changes in respiratory tract as reported by Saquib et al [10].

Hypothesis 2: The foreign body initially obstructed left bronchus partially, presenting as pathology over left side. The bouts of cough dislodged the foreign body towards right bronchus over a period of time and then presented as complete right bronchus obstruction due to the swollen nature of the Bengal gram.

The mechanism of migration of the FB may be due to the high expiratory flow generated during coughing. This initial peak of expiratory flow lasts about 30 to 50 milliseconds and may each flow rates as great as 12L/s. [11]. This expiratory flow may be sufficient enough to expel the foreign body or displace it out so that it could migrate into the opposite lung.

IMAGES:

FIGURE 1: DEPICTING LEFT SIDED CONSOLIDATION OF MIDDLE AND LOWER ZONES

FIGURE2 : DEPICTING RIGHT SIDED CONSOLIDATION AND HYPOINFLATION

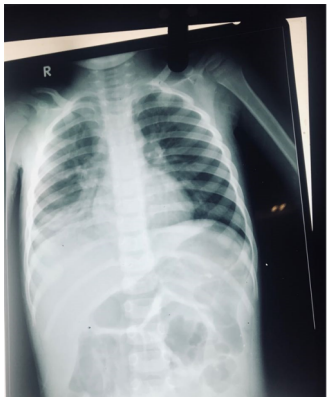
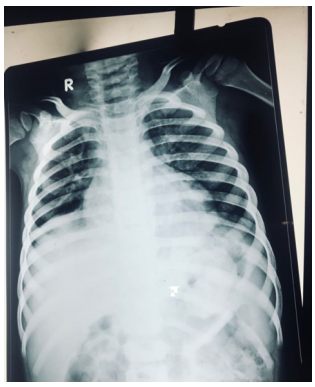


FIGURE 3 : DEPICTING NORMAL LIUNG FIELDS AFTER BRONCHOSCOPIC REMOVAL OF FOREIGN BODY



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