

FOREIGN BODY LUNG: A CASE REPORT

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Summary

Foreign body aspiration into airways is one of the common serious and life threatening problems in children^{1, 2}. It can affect adult or elderly people also³. It is an important cause of childhood mortality & morbidity⁴, and it is a common surgical problem in children two to three years of age^{5, 6, 7}. Foreign body aspiration claims thousands of lives each year, because they rarely reach in time for intervention⁸. It is the 4th leading cause of death under 3 years of age and 3rd cause of death under 1 year of age^{9, 10}. It usually affects normally and as a result of curiosity, children like to put objects in their mouth and this raises the chance of aspiration in young children¹¹. It causes choking, although it seems that choking cases due to foreign body aspiration has been decreased, but statistically there has been no significant change in the rate of its prevalence. Different studies have revealed that the mechanical choking and foreign body aspiration in children were 84% under the age of 5 years and 73% under the 3years¹²⁻¹⁴. Aspirated materials are various and several studies showed that the most common foreign bodies are herbal material^{13,14}. Most common manifestations of foreign body aspiration are coughing, dyspnea, audible wheeze, stridor, choking, cyanotic spells, respiratory distress or even symptom less.¹⁵ Sometimes there may be no history of foreign body aspiration; high degree of suspicion is needed to diagnose it¹⁵. In most cases it may be diagnosed in 2-3 days of the event, in a few cases the diagnosis may not be made for several weeks or months⁵. Negative imaging (CXR) studies however do not exclude the presence of foreign body in the airway^{5, 15}. Therefore bronchoscopy is the ultimate procedure to exclude foreign body lung.^{1, 5, 15} Our case had interesting presentation of mild whistling sound on expiration and phonation after two days of aspiration. There was no respiratory distress as the foreign body was fenestrated.

Key words : Foreign body; collapse consolidation; bronchoscopy

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Case Report

A 7^{1/2} year old boy was presented at the Department of Child Health, Chittagong Medical College Hospital, Chittagong, Bangladesh with complaint of fever, cough & mild respiratory distress for 2 days. He was found on examination to be well alert & cooperative. He was afebrile & acyanotic. His R/R was 56/min & H/R 78/min initially. On examination chest was depressed (Fig1)& restricted on

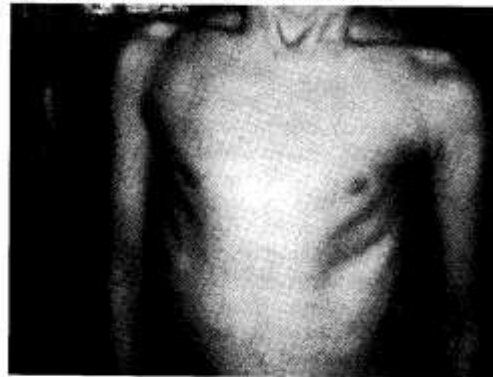


Fig 1: Chest depression mostly on left side



Fig 2: CXR showing collapse & consolidation on left side



Fig 3: The foreign body



Fig 4 : Check Xray after removal of foreign body

movement on left side. There was mild shifting of trachea & cardiac apex on left. Air entry was poor on left mid zone with no added sound. Chest X-ray PA view was done, which showed opacity on most of left lung field with tracheal shifting towards left (fig 2). It was diagnosed as a case of collapse-consolidation and treated accordingly. There was no clinical improvement despite adequate doses of Ceftazidim & Vancomycin in next two days. Interestingly mild whistling sound on expiration and phonation was noticed after 2 days of admission. Thorough history was then evaluated. Patient did not give any history initially of any foreign body inhalation. At one time the boy expressed his guilty confession of biting the end of a ball point pen while reading and at one time found that the end clips of his pen was missing. But he did not feel any discomfort or choking thereafter. So could not give any importance on it and inform his parents. Fiberoptic bronchoscopy was then done on that day and the end clip (Fig 3) was removed from left principal bronchus. The post operative period was uneventful, symptoms of respiratory distress were abated. Check radiograph (Fig 4) was normal and the patient was discharged in next day.

Discussion

Foreign bodies in tracheobronchial tree can present with varied symptomatology and diagnosis is still difficult. Not very often the history is contributory and diagnosis depends on high index of clinical suspicion, clinical signs and radiological findings. Aspirated foreign bodies are found more commonly in children (91% in children & 59% in adult group), where 74% of aspirated material gets lodged in upper air way because of smaller air way diameter, this figure is 43% for adult population.³ Childhood mortality from aspirated foreign bodies vary from 0.9- 2.3%^{15,16}. Usually aspirated foreign body get lodged in right lung due to anatomical variations^{1,5,13,17}, but in our case it was found in left lung, may be due to the postural position of the boy at aspiration. Metallic and plastic as compared to

vegetative foreign body are inert and minimally reacting. As a result these do not produce any immediate sign and symptoms unless obstructing the airway significantly. In contrast vegetative foreign bodies are fast reacting.^{1,5}. It was a non vegetative foreign body in our case. X-ray findings may not give clue to many cases especially if radio lucent objects are being aspirated. It is diagnostic in 10-14% cases by CxR¹⁷. Features may present as pneumonic consolidation, consolidation with collapse, emphysema^{1, 15, 17}. X-ray may be inconclusive and bronchoscopy is the ultimate procedure to exclude foreign body.^{1, 15} It has reduced the death rate from 24% to 2% and even less¹⁵. Most of the procedures are carried out with the rigid ventilating bronchoscope and grasping forceps under general anesthesia¹⁵, flexible bronchoscope are superior in removing tiny and far reaching objects.¹⁷ Sometime tracheostomy maybe needed for foreign body removal.¹⁵

Conclusion

Many factors have influence on high prevalence of aspiration in children. These factors are attempt of children to recognize their environment through putting objects in their mouth, the incompleteness of posterior teeth and the immaturity of neuromuscular mechanism of swallowing^{1,4,11}. High index of suspicion with thorough history aid in prompt diagnosis, X-ray is inconclusive, diagnostic bronchoscopy is life saving^{1,5,15,17}. In order to prevent the aspiration of foreign bodies, it is recommended not to put nuts or vegetative foods into the mouth of children without prior crusting and not to keep toothpicks, school supplies and similar objects in mouth.

Disclosure

All the authors declared no competing interests.

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