

Case Report

Pill in the left bronchus-pediatric foreign body aspiration: a case report

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ABSTRACT

Pediatric population is more prone for accidents such as foreign body aspiration. It is an important and preventable cause of mortality and morbidity in children. Pill aspiration is one of the rare causes foreign body aspiration in both children and adults. History is crucial and can guide treatment in case of foreign body aspiration. We present a 5 year old child who had history and examination suggestive of pneumonia which turned out to be a foreign body in left bronchus on computed tomography. The foreign body was a half broken tablet of Co-trimoxazole removed by rigid bronchoscopy without any complication. The child's symptoms improved satisfactorily following removal.

Keywords: Foreign body, Bronchus, Pill

INTRODUCTION

Foreign body aspiration is an important and preventable cause of mortality and morbidity in children. It causes airway obstruction that could be acutely life threatening if not detected early. It is the fourth most common cause of accidental death for those less than 3 years old.¹ Commonly aspirated foreign bodies (FBs) in children include peanuts, seeds, food particles, hardware, and pieces of toys.² Nonfood items (eg, coins, paper clips, pins, pen caps) are more commonly aspirated by older children.³ Foreign body aspiration is more common in right bronchus than left bronchus due to its anatomy.⁴ Sudden onset of coughing and choking are the most common presenting symptoms.⁵ The presentation depends on the degree of airway blockage and the location of the objects as well as the age of the child, the type of object. Lack of awareness and curiosity drives pediatric population more prone for accidents such as foreign body aspiration. We present a case of foreign body "Pill" aspiration in a 5 year old child which has never been reported in pediatric population in literature.

CASE REPORT

A 5 year old male child presented with a history of fever for 5 days and breathing difficulty for 3 days to pediatrics outpatient department. There was no history cough with expectoration, chest pain, irritability or poor feeding. On further probing we could not get any history suggestive of foreign body ingestion, paroxysmal cough, choking episodes or cyanosis. There was no history contact with tuberculosis or family history suggestive of bronchial asthma. The child's prenatal, natal and postnatal period was uneventful. Birth weight was adequate and the child attained milestones at appropriate age.

On examination child was comfortable at rest, playful, well-built and nourished, systemic examination showed heart rate of 110/min respiratory rate of 28/min, with 100% SpO₂ at room air. On inspection there was no subcostal or suprasternal retractions. On auscultation, there was reduced air entry in entire left lung with fine crepitations over lower lobe, no other added sounds were noted.

Chest X ray showed left lung mild hyperinflation with left lower zone consolidation. Hence the child was provisionally diagnosed to have lobar pneumonia and started on Intravenous antibiotics amoxicillin-clavulanic acid for 7 days. Sputum culture was negative for tuberculosis or any other organism. But the symptoms persisted, prompting us to undertake contrast enhanced computed tomography of thorax. This showed a hyperdense cuboid shaped foreign body in the left main bronchus measuring 1.5 × 0.5 cm with surrounding soft tissue density.

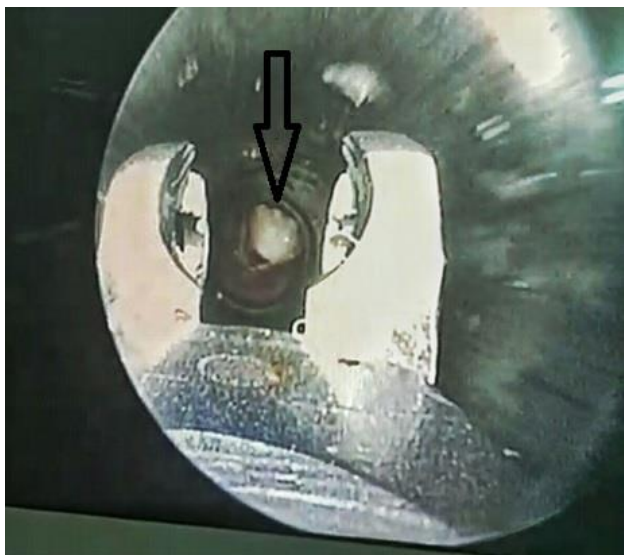


Figure 1: Whitish pill (black arrow) being removed using optical forceps.

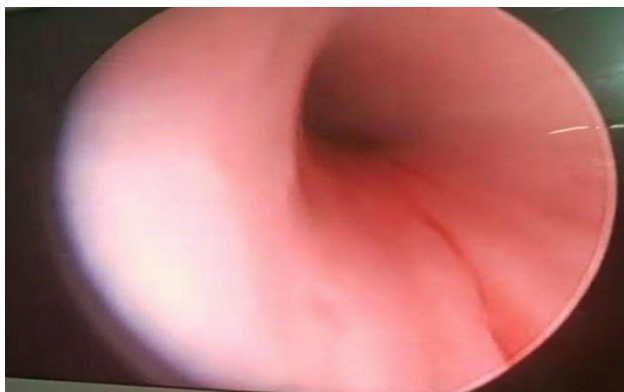


Figure 2: Left main bronchus with a blood streak after removal.

Child was planned for rigid bronchoscopy and foreign body removal under general anesthesia. Intraoperatively a whitish solid foreign body was seen lying on the left main bronchus partially occluding the bronchus which was removed in one piece under endoscope guidance. There was only a streak of blood at the involved site following removal and no residual foreign body, granulations or bleeding encountered. Right main bronchus was normal. Child was extubated uneventfully.

The foreign body was found to be a half broken unknown tablet measuring 1×0.5 cm. On retrospectively enquiring the parents there was a history of usage of co trimoxazole tablet by the father for his illness and both the tablets were matching in size and shape on analysing.



Figure 3: Coronal CECT showing radiopaque foreign body in left main bronchus.

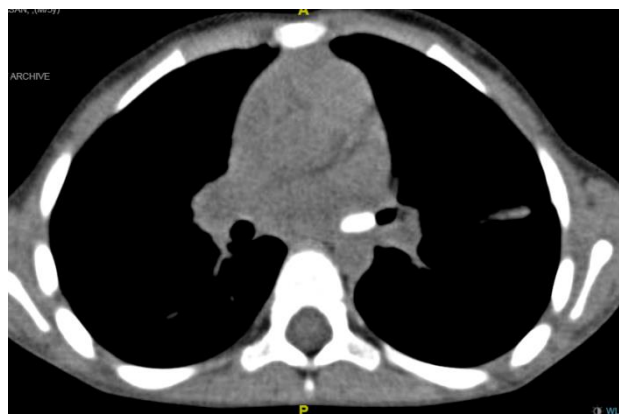


Figure 4: Axial CECT showing radiopaque foreign body in left main bronchus.



Figure 5: Foreign body after removal.

DISCUSSION

Airway foreign bodies cause a major life threatening condition in children and have always been an area of interest for Otolaryngologists, Anesthetists and Pediatricians. The most common age group affected is 1 year to 3 years of age. This may be due to absent denture, still adjusting to descent of larynx, habit of crying, speaking while eating and also uncoordinated swallowing reflexes.⁴ The incidence is more common in male than female child. Our patient is a 5 year old male child who had noticed the father taking his pill and probably aspirated while playing with it in the absence of family members.

History by the parents is an important aspect in diagnosing foreign body aspiration in children as they can't speak or even if they could they are too scared to tell anyone. The chance of positive foreign body based on history varies from 70% to 94% in various studies.^{4,6} In our case parents never noticed any paroxysmal event such as cough, choking or sudden onset breathing difficulty which lead to making foreign body aspiration the last in the differential diagnosis. The golden dictum is 'The clinician should be prepared to undertake bronchoscopy on the basis of history alone'.⁷ In addition symptoms were mild in our patient and presence of mild fever pointed more towards an infective etiology hence child was diagnosed to have pneumonia and started on intravenous antibiotics. Radiological assessment helps in complementing the history in the diagnosis but also becomes pivotal in cases where there is doubtful history-to diagnose and to confirm the site, size and shape of the foreign body and in cases which failed medical therapy to find out any structural anomalies in thorax. The most common Chest X ray finding being either air trapping or collapse of one lung. Our patient though he had hyperinflation on left lung there were features of consolidation in left lower zone. X ray didn't reveal the pill in the left bronchus probably obscured by heart shadow. This, further lead to diagnosing an infective etiology.

Failure to respond to antibiotics lead us to undertake contrast enhanced CT which incidentally showed a mass in the left main bronchus partially occluding it. In a study by Vikas et al foreign body most commonly gets impacted in Right main bronchus (49.09%) followed by Left main bronchus (31.42%) and lastly the trachea (19.49%).⁴ This prompted the need for diagnostic cum therapeutic rigid bronchoscopy. Rigid bronchoscopy is a safe procedure in experienced hands compared to ancient times due to better illumination, Hopkins rod lens system and usage of ventilating rigid bronchoscope.

We had used a 4.5 size ventilating distal illuminating rigid bronchoscope under jet ventilation mode. The foreign body was noted lying on the posterior wall of left main bronchus near its entrance from carina. It wasn't embedded or surrounded by granulation tissue (except for

a streak of blood) like expected in case of long standing foreign body, this may be due to the inherent property of the drug. The tablet didn't seem to have dissolved much which has been reported in certain pill aspiration.⁸ Our patient didn't have any systemic side effects due to the aspirated pill. Air entry to left lung drastically improved within one day.

There have been reports of pill aspiration in adults⁹ in literature but no single case of pediatric pill aspiration has been reported, though foreign body aspiration is common in this population. To the best of our knowledge this is the first documented case of pill aspiration in a child which was lodged at an uncommon site-the left main bronchus.

CONCLUSION

Foreign body aspiration is one of the most common airway accidents among children. Pill aspiration is an under recognized event that can be associated with severe and varied airway injuries, leading to significant morbidity and mortality. Our case report, highlights the importance of history in the diagnosis of foreign body aspiration and the need to suspect this condition in children with unresolved pneumonia not responding to medical management.

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