

Foreign Body Aspiration in Left Bronchus in a Pediatric Patient - A Case Report

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ABSTRACT

Introduction: Pediatric population is more prone for foreign body aspiration. It is a preventable cause of mortality and morbidity in children. Stone aspiration is one of the rare causes foreign body aspiration in both children and adults.

Case Report: We present a 1-year old child who had history and examination suggestive of pneumonia which turned out to be a foreign body in left bronchus on chest x-ray PA. The foreign body was removed by flexible bronchoscopy without any complication.

Conclusion: The child's symptoms improved satisfactorily following removal. History is vital and can guide treatment in case of foreign body aspiration.

Keywords: Foreign Body Aspiration, Left Bronchus, Pediatric Patient

On examination child was in respiratory distress at rest, well-built and nourished, systemic examination showed heart rate of 140/min respiratory rate of 28/min, with 93% 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 presented left lung mild hyperinflation and depicts cuboid shaped foreign body (Figure 1 and 2) in the left main bronchus measuring 1.0 × 0.5 cm (Figure 3) with surrounding soft tissue density. The foreign body was found to be a stone measuring 1 × 0.5 cm.

Child was planned for Flexible bronchoscopy (Figure 4 & 5) and foreign body removal under general anesthesia.

INTRODUCTION

Foreign body aspiration is a significant and avoidable cause of mortality and morbidity in children, but it is common in adults too. It causes airway obstruction that could be 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) include peanuts, seeds, food particles, hardware, and pieces of toys.² Other non-food items include coins, paper clips, pins, pen etc are more commonly aspirated.³ Foreign body aspiration is more common in right bronchus than left bronchus due to its anatomy.⁴ Sudden onsets of coughing and choking are the most common presenting symptoms. The appearance depends on the degree of airway blockage and the site of the objects as well as the age, type of object. As there is lack of awareness it drives paediatric population more prone for accidents such as foreign body aspiration. We present a case of foreign body aspiration (stone) in a 1-year old patient which has never been reported in pediatric population in literature due to lacunae in that.

CASE REPORT

A 1-year-old male child obtainable with a history of cough and breathing difficulty for 1 day to paediatrics outpatient department. There was no history of chest pain, irritability or poor feeding. On further analysing 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.

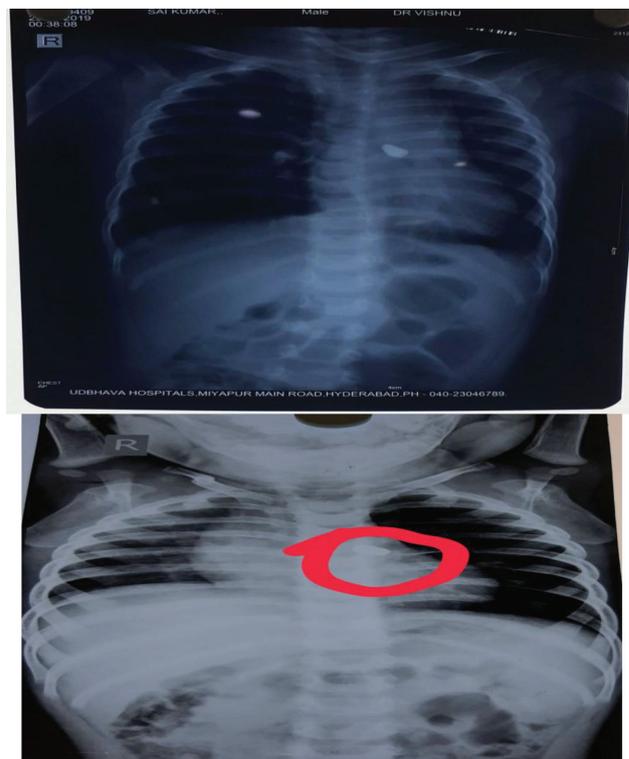


Figure-1 and 2: Foreign body on digital X ray

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Figure-3: Size of the foreign body (stone)

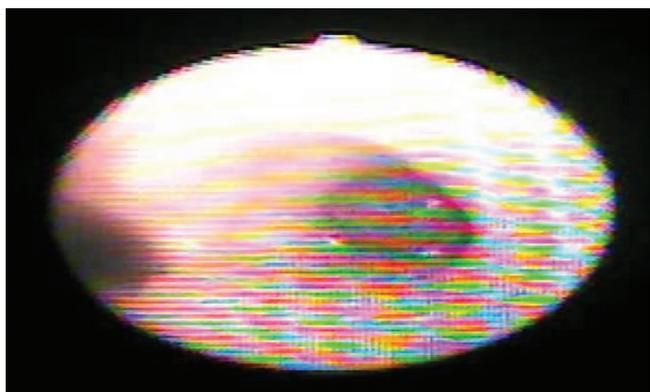


Figure-4: Bronchoscopic view reveals FB in the Right mainstem bronchus

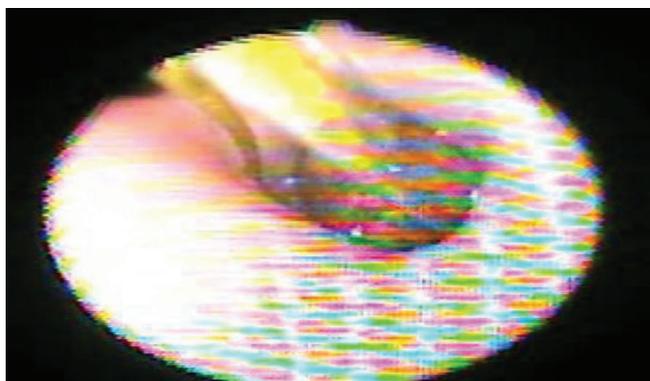


Figure-5: FB retrieval using basket

Intraoperatively a black solid foreign body was seen lying on the right main bronchus almost completely occluding the bronchus which was removed in one piece under endoscope supervision using basket. There was only a line 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.

DISCUSSION

Airway foreign bodies cause a major life-threatening condition in children and have always been an area of interest for clinicians. 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 uncoordinated swallowing reflexes.⁴ The

incidence is more common in male than female child. Our patient is a 1-year-old male child who had a habit of eating mud and stones 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.^{4,5} In the present case parents never observed any paroxysmal event such as cough, choking or sudden onset breathing difficulty which lead to foreign body aspiration the last differential diagnosis. 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 essential 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 and tracheal shift to ipsilateral side.

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 Flexible bronchoscopy. Flexible bronchoscopy is a safe procedure in experienced hands compared to ancient times due to better illumination, Hopkins rod lens system and usage of ventilating bronchoscope. We had used a 4.5 uncuffed ET tube intubated & ventilated. Later using flexible pediatric scope able to visualize the foreign body was noted lying on the posterior wall of right main bronchus near its entrance from carina. It wasn't embedded or surrounded by granulation tissue like expected in case of long-standing foreign body. The stone didn't seem to have dissolved much which has been reported in certain pill aspiration.⁶ Our patient didn't have any systemic side effects due to the aspirated stone. Air entry to left lung drastically improved within one day.

CONCLUSION

Foreign body aspiration is one of the most common airway accidents among children. Stone aspiration is un-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.

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