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Case Report

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A Case of Delayed Diagnosis and Subsequent Foreign Body Expulsion in an Infant

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ABSTRACT

A 9-month-old female infant presented to the emergency department with a 2-h history of sudden-onset respiratory distress that progressively worsened until presentation. She had been apparently well before the onset of symptoms. Chest X-rays were normal, and an urgent bronchoscopy revealed no foreign body but showed an area of hyperemia in the left main bronchus. The mother later reported that she had given the child a local groundnut cake ("Kuli-Kuli") a few hours before the symptoms began. During admission, the infant developed fever with rhonchi and crepitations and was treated for bronchopneumonia. She was discharged after 5 days following complete resolution of symptoms. Two days later, the mother returned, reporting that the child had suddenly started coughing and expelled crumbs of the groundnut cake.

Keywords: Airway obstruction, choking, foreign bodies, infant

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INTRODUCTION

Foreign body aspiration leading to airway obstruction and subsequent choking is a major cause of morbidity and mortality among children, although it is largely preventable. It commonly occurs in children younger than 5 years, particularly between 1 and 3 years of age.[1-5] This vulnerability is mainly due to the anatomical and developmental characteristics of a young child's airway and the incomplete development of swallowing ability.[6-7] At this age, children also tend to explore their surroundings and frequently place objects into their mouths. Furthermore, molars do not erupt until approximately 1.5 years; however, mature mastication takes longer to develop. Despite having a strong gag reflex, the airway of a young child is more susceptible to obstruction than that of an adult in several ways. Its smaller diameter makes it more prone to complete blockage by small foreign bodies, while mucus and secretions may form a seal around the object, making it harder to expel by coughing. In addition, the force of air generated by a cough in infants or young children is often insufficient to dislodge an obstructing object. The most common aspirated items are food particles, accounting for about 81% of cases, with nuts – particularly peanuts – responsible for nearly one-third. Other frequently aspirated objects include coins, balloons, and small toys.[8-11] Urgent endoscopic removal remains the mainstay of management for foreign bodies in the tracheobronchial tree.

CASE REPORT

A 9-month-old female infant was brought to the emergency department with a 2-h history of sudden-onset difficulty in breathing that progressively worsened before presentation. She had been apparently well before the onset of symptoms. According to the mother, there was no history of force-feeding or choking during meals. However, about 5-h before the onset of symptoms, she had given the child a local groundnut cake ("Kuli-Kuli"), after which the infant coughed and vomited but subsequently appeared well. There was no history of cyanosis, excessive sweating, or pauses during breastfeeding. The child had no known history of asthma or atopy, although the maternal aunt was asthmatic.

Two weeks before this presentation, she had been treated as an outpatient for acute pharyngotonsillitis. She had been exclusively breastfed for the first 4 months of life and was currently on complementary semi-solid diets. Growth and development were appropriate for age, and immunizations were up to date.

On examination, she was a well-nourished but acutely ill-looking infant in respiratory distress, with flaring of the alae nasi, intercostal and subcostal retractions, and xiphisternal in-drawing. She was not pale, icteric, cyanosed, or dehydrated, and there was no pedal edema or lymphadenopathy. Her axillary temperature was 36.7°C. Respiratory rate was 76 breaths/min, and oxygen saturation (SpO_2) on room air was 96%. Chest expansion was equal bilaterally with resonant percussion notes. Vesicular breath sounds were heard with reduced intensity on the left, particularly posteriorly; no added sounds were noted. Other systemic examinations were essentially normal.

A working diagnosis of partial lower airway obstruction secondary to foreign body (local groundnut cake, "Kuli-Kuli") aspiration was made. Chest X-ray revealed no abnormality. The cardiothoracic team was consulted, and a rigid bronchoscopy was performed, which revealed no foreign body but showed mucosal hyperemia in the left main bronchus. Full blood count and electrolyte-urea-creatinine tests were essentially normal. The patient was commenced on parenteral amoxicillin–clavulanate, gentamicin, and hydrocortisone. Supplemental oxygen was administered due to severe respiratory distress.

Two days after admission, respiratory distress persisted, and she developed fever with bilateral rhonchi and crepitations, more pronounced over the left hemithorax. A repeat chest X-ray was unremarkable. She was nebulized with salbutamol, and the medications were continued.

By the day 5 of admission, fever and respiratory distress had resolved, and she was feeding well. She was discharged home in stable condition for follow-up. Two days after discharge, the mother reported that the child had a sudden bout of coughing and expelled a small piece of the groundnut cake (Kuli-Kuli).

DISCUSSION

Spontaneous expulsion of a foreign body from the airway is a rare phenomenon, and only a few cases have been reported worldwide. In 1948, Negus reported an incidence of approximately 2%.[12] Chevalier Jackson described a similar rate of 2–4%.[13] Gupta and Soodlater reported two cases of spontaneous foreign body expulsion: A 2-year-old boy who expelled an aspirated metallic valve from a bicycle tube 4 days after aspiration, and a 20-year-old man who expelled a metallic coin that had lodged in the trachea.[14] In 2014, Jaiswal et al. reported a case from India involving an 18-year-old tailor who spontaneously expelled a pin he had accidentally ingested.[10]

Most of the cases reported in the literature describe spontaneous expulsion either during preparation for endoscopic removal or after an unsuccessful bronchoscopy. In the present case, both radiological evaluation and bronchoscopy were normal at presentation. Haddadi et al., in a 7-year retrospective review of tracheobronchial foreign bodies in children, found that foreign bodies were visualized in only about 72% of cases during bronchoscopy.[15]

The initial event following foreign body aspiration is typically characterized by the sudden onset of violent paroxysms of coughing, choking, gagging, and occasionally complete airway obstruction.[16] This may be followed by an asymptomatic interval during which the foreign body becomes lodged, protective reflexes fatigue, and the immediate irritative symptoms subside. Most children present during this second stage, when the absence of acute symptoms may cause physicians to overlook the diagnosis of foreign body aspiration. This stage is the most deceptive and accounts for a large proportion of delayed or missed diagnoses.[16] Later, secondary complications such as obstruction, infection, or erosion may manifest as cough, fever, hemoptysis, pneumonia, or atelectasis, drawing renewed attention to the possibility of a foreign body.

In the present case, there was no obvious history of choking. The mother only observed a progressive onset of respiratory distress, which was later suspected to be due to aspiration of fragments of the groundnut cake. Radiological evaluation plays an invaluable role in identifying the site of obstruction; approximately 88% of airway foreign bodies lodge in the bronchi (58% in the right bronchus), while 10% are located in the larynx or trachea.[7,9] Nevertheless, up to 15–30% of cases may have a normal chest radiograph.[17] In this case, both the initial and repeat chest X-rays were unremarkable. An urgent bronchoscopy was performed, but no foreign body was found except for an area of hyperemia in the left main bronchus.

CONCLUSION

A detailed and carefully obtained history remains the cornerstone of diagnosis in suspected foreign body aspiration. A positive history should never be disregarded, while a negative history can sometimes be misleading. In the present case, none of the initial clinical or radiological findings suggested aspiration, and bronchopneumonia was initially suspected. The eventual spontaneous expulsion of the groundnut fragment highlights the importance of maintaining a high index of suspicion for foreign body aspiration in infants presenting with unexplained respiratory distress, even when initial investigations are inconclusive.

Disclosures

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REFERENCES

1. ScienceDaily. Nationwide Children's Hospital. Choking is a leading cause of injury and death among children. Available at: https://www.sciencedaily.com/releases/2010/02/100226212559.htm. Accessed Nov 26, 2025.
2. Chang D, Abdo K, Bhatt I, Huoh K, Pham N, Ahuja G. Persistence of choking injuries in children. Int J Pediatr Otorhinolaryngol 2021;144:110685.
3. Gardner H, Baun C, Dowd M, Durbin D. Prevention of choking among children: Policy statement. Pediatrics 2010;125(3):601–7.
4. Gvetadze P, Chkhaidze I, Baldas S, Comoretto R, Gregori D, Berchialla P. Injuries due to foreign body aspiration in Georgia. Int J Pediatr Otorhinolaryngol 2016;83:84–7.
5. Kliegman RM, Behrman RE, Jenson HB, Stanton BF. Nelson Textbook of Pediatrics. 20th ed. Philadelphia: Elsevier Saunders; 2016. p.1812–3.
6. Dodson H, Cook J. Foreign body airway obstruction. Treasure Island: StatPearls Publishing; 2023.
7. Abdollahi F, Badbam D, Goljanan T. Causes of diagnostic delay in patients with airway foreign body aspiration. J Iran Univ Med Sci 2008;15(59):119–24.
8. Committee on Injury, Violence, and Poison Prevention. Prevention of choking among children. Pediatrics 2010;125(3):601–7.
9. Sidell DR, Kim IA, Coker TR. Food choking hazards in children. Int J Pediatr Otorhinolaryngol 2013;77(12):1940–6.
10. Jaiswal AK, Garg R. Spontaneous expulsion of a foreign body (sewing machine needle). J Clin Diagn Res 2014;8(8):KD01–2.
11. Thome A, Stool S, Rimell F, Reilly J, Rider G, Stool D. Characteristics of objects that cause choking in children. JAMA 1995;274(22):1763–6.
12. Negus VE. Foreign bodies in the air and food passages. Ann R Coll Surg Engl 1948;3(4):299–305.
13. Jackson C. Foreign bodies in the air and food passages. Surg Gynecol Obstet 1954;98(2):123–9.
14. Gupta I, Sood VP. Foreign body in the air passage: Spontaneous expulsion. Indian J Otolaryngol 1967;19(4):173–6.
15. Haddadi S, Marzban S, Shamaei M, Hashemi SM, Khorgami Z, Javadi MR, et al. Tracheobronchial foreign bodies in children: A seven-year retrospective study. Iran J Otorhinolaryngol 2015;27(81):377–85.
16. Farzizadeh A, Hashemian H, Atrkar Roshan Z. Clinical and radiographic findings of foreign body aspiration in children hospitalized in 17 Shahrivar Hospital, Rasht, during 1996–2008. Feiz J 2013;7(5):495–500. [in Persian]
17. Ghafari J, Sahebpour A, Mosavi S, Safar M. Pulmonary foreign body aspiration in children referring to Bu Ali Sina Hospital, Sari, and related factors (2001–2009). J Mazandaran Univ Med Sci 2010;20(75):17–22. [*Article in Persian*]