

Aspirated Tooth in a Child Following Traditional (Non-Clinical) Extraction: A Rare Complication with Delayed Referral in the Right Bronchus — A Case Report

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Objective: To report a rare case of aspirated tooth following a traditional, non-clinical extraction in a child, emphasizing the risks of delayed referral and management challenges in fragile health systems.

Materials and Methods: This is a case report of a 9-year-old girl managed at Mogadishu Somali-Türkiye Recep Tayyip Erdoğan Training and Research Hospital (MSTH) after referral from a peripheral hospital. Diagnostic evaluation included chest X-ray and computed tomography (CT), followed by therapeutic rigid bronchoscopy.

Results – Case Report: The child aspirated a tooth during a traditional hand-based extraction at home. She presented with persistent cough and respiratory distress, with delayed referral from Kismayo to Mogadishu. CT imaging revealed a radiopaque foreign body lodged in the right main bronchus. Rigid bronchoscopy under general anesthesia successfully retrieved the tooth. The postoperative course was uneventful, and the patient was discharged in good condition on day two.

Conclusion: Tooth aspiration is a rare but serious complication of traditional dental practices. This case underscores the importance of early recognition, appropriate imaging, and rigid bronchoscopy for definitive management. Strengthening public awareness, referral pathways, and dental care regulation is crucial to prevent similar complications in resource-limited settings.

Keywords: tooth aspiration, foreign body aspiration, rigid bronchoscopy, traditional non-clinical tooth extraction, delayed referral

Background

Aspiration of a foreign body into the trachea and bronchi is more common in children, particularly boys under the age of three, although it can also occur in adults.¹ Early diagnosis and treatment are crucial to avoid complications such as pneumonia, bronchial obstruction, and long-term lung damage.² Choking remains a leading cause of death in children under 14 years of age.³

The most common aspirated items are organic in origin, such as nuts, seeds, berries, and grains, although inhalation of dental instruments and natural teeth has also been reported.⁴⁻⁶ Foreign bodies can be broadly divided into organic and inorganic types: organic FBs (eg, bones, meat, fruits, vegetables, and seeds) are the most frequent and often cause more complications due to swelling and inflammatory reactions, while inorganic FBs (eg, coins, pins, screws, and plastic objects) are less reactive but may still result in airway obstruction or trauma.⁷



Figure 1 Posteroanterior chest radiograph demonstrating a radiopaque foreign body (blue arrow) lodged in the right main bronchus, consistent with an aspirated tooth.

Auscultatory findings in foreign body aspiration typically include localized wheeze, diminished breath sounds, or stridor on the affected side.⁸ Radiopaque foreign bodies are visible on plain radiographs, allowing direct detection and localization, whereas radiolucent foreign bodies are not directly seen and are instead diagnosed through indirect signs such as air-trapping, atelectasis, or soft tissue changes.⁹

We present a rare case in which a 9-year-old child aspirated a tooth during a traditional, non-instrumental extraction. The case is further notable for the delayed referral from Kismayo to Mogadishu, where the tooth was ultimately retrieved from the right main bronchus at MSTH.

Case Presentation

A 9-year-old girl was referred to MSTH for a persistent cough and progressive shortness of breath. These symptoms occurred after a tooth was extracted in the family's home using traditional hand-based techniques. No suction, airway protection, or appropriate tools were in use.

During the procedure, the child coughed suddenly and had respiratory distress. The family suspected that the tooth had been aspirated. She was brought to the closest hospital in Kismayo, where no effort at extraction was made because of a shortage of tools and skilled staff. After that, she was sent to Shafi Hospital in Somalia's capital, Mogadishu, where she received supportive care. After an unsuccessful attempt to remove the aspirated tooth, she was moved to MSTH, our tertiary hospital.

A radiopaque substance in the right main bronchus was discovered by a thorax CT scan at Shafi Hospital, which was compatible with an aspirated tooth. An attempt to get rid of it failed. After that, the patient was referred to our hospital, MSTH.

Upon arrival, the child was stable but had decreased air entry in the right lung. We did a confirmatory chest X-ray [Figure 1](#). Under general anesthesia, a rigid bronchoscopy was performed to successfully remove the aspirated tooth from the right main bronchus. [Figure 2](#). The procedure was smooth and we repeated the chest x-ray, which was normal. [Figure 3](#).

The child had a smooth post-operative course and was discharged in good condition on postoperative day 2.

Discussion

Our case involves a 9-year-old female, which contradicts previous studies showing that foreign body aspiration is more common in children, particularly males under the age of three.¹ Tooth aspiration is a rare and extremely dangerous



Figure 2 Gross image of the extracted foreign body — a human tooth retrieved from the right main bronchus during flexible bronchoscopy.

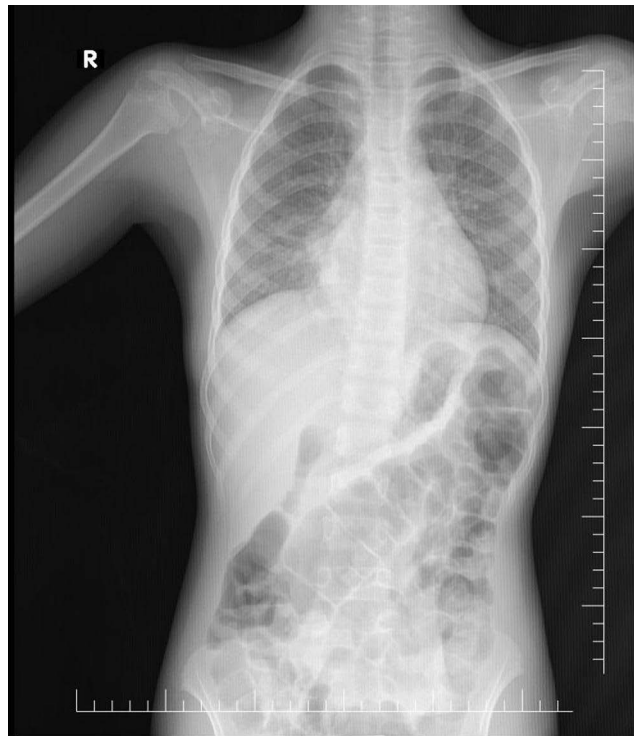


Figure 3 Post-bronchoscopy chest radiograph demonstrating complete resolution of the previously noted right bronchial foreign body, with normalization of lung aeration and mediastinal alignment. No residual radiopaque object, atelectasis, or air-trapping is observed.

situation. If it is not identified and treated promptly, it can result in significant morbidity and mortality in children. The situation in our case was made worse by the delayed referral from Kismayo to Mogadishu (approximately 410–480 km), due to lack of resources and trained personnel.

The likelihood of aspiration was increased since the tooth extraction was performed by hand using traditional methods. In many regions of Somalia, where access to modern dental treatment is limited, traditional dentistry is still widely practiced. Such practices lack proper instruments, aseptic precautions, and airway protection, making children particularly vulnerable to complications.

Cases of dental (or other foreign body) aspiration reported in the literature show varied symptoms, including nonproductive cough, shortness of breath, wheezing, hemoptysis, cyanosis, or even complete absence of symptoms.² Auscultatory findings typically include unilateral wheeze, diminished breath sounds, or stridor, depending on the site and degree of obstruction.³ Failure to diagnose foreign body aspiration can result in recurrent atelectasis, chest infection, emphysema, or even misdiagnosis as asthma.¹⁰

Most reported cases of tooth aspiration occur during intraoral procedures such as dental extractions under anesthesia, adenotonsillectomy, and other oropharyngeal manipulations, where reduced protective airway reflexes increase the risk of aspiration.^{6,11,12} Trauma may also result in tooth dislodgement and aspiration, especially in unconscious or semiconscious individuals.¹³

Foreign bodies can be organic or inorganic. Organic FBs (such as seeds, nuts, or meat) tend to swell and elicit marked inflammatory reactions in the airway, often causing severe obstruction and post-obstructive pneumonia. Inorganic FBs (such as coins, pins, or teeth) do not swell but can still cause airway blockage and mucosal trauma.⁷ Importantly, teeth are radiopaque, which usually facilitates diagnosis on plain radiographs or CT scans. In contrast, radiolucent FBs (such as food boluses or plastic) are harder to visualize and are often only suspected through indirect signs such as atelectasis or air-trapping.^{9,14}

Misdiagnosis or inappropriate management of patients with FBA prolongs symptoms, increases complication rates, and raises healthcare costs before the correct diagnosis is established.¹⁵

Late-stage diagnosis of foreign body aspiration—often resulting from vague symptoms, normal early radiographs, and delayed referral—greatly increases therapeutic challenges and may necessitate more invasive interventions. Such delays also heighten the risk of complications, prolong recovery, and significantly impact overall patient outcomes.¹⁶

In cases where foreign body aspiration is diagnosed at a late stage, therapeutic intervention becomes more complex, often requiring prolonged bronchoscopy, repeated procedures, or even surgical retrieval due to advanced airway inflammation and obstruction.^{15,16}

The right main bronchus is the most common site of foreign body aspiration in both children and adults due to its larger diameter and more vertical orientation.¹³ This was consistent with our case, where the tooth was impacted in the right bronchus. CT imaging helped localize the foreign body, but definitive management required rigid bronchoscopy. Rigid bronchoscopy remains the gold standard for foreign body removal, allowing direct visualization, airway control, and safe extraction even in pediatric patients.¹⁴

This case underscores the dual challenges of foreign body aspiration in low-resource settings: the persistence of traditional dental practices and the impact of delayed referral on outcomes. Public health education, stricter regulation of non-clinical tooth extraction, and improved access to trained personnel and bronchoscopy facilities are critical to reducing morbidity and mortality.

The case highlights the need for public health education and dental care regulation in avoiding serious complications from traditional nonmedical methods. It also serves as a reminder to physicians to consider foreign body aspiration in the differential diagnosis of acute respiratory symptoms in contexts where informal hand-based tooth extraction is still prevalent. It also underlines the significance of caution during tooth extractions in children, stronger referral networks, and improved equipment and training in rural and other areas that are in need.

Conclusion

Aspiration of a tooth during the traditional hand-based technique, which is unusual and extremely rare, illustrates an unusual setting for tooth aspiration, and tooth extraction was performed outside of a medical setting. This procedure is

still popular in many low-resource or rural communities and can result in major consequences. This example highlights the importance of early detection, adequate imaging, and rigid bronchoscopy in such cases. Raising awareness and updating healthcare infrastructure are crucial to decreasing and improving outcomes in such events.

Abbreviations

FB, Foreign Body; FBA, Foreign Body Aspiration; CT, Computed Tomography; MSTH, Mogadishu Somali-Türkiye Recep Tayyip Erdoğan Training and Research Hospital.

Data Sharing Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Ethical Approval

Ethical approval was not required for the publication of this case report, in accordance with the policies of our institution.

Informed Consent

Written informed consent was obtained from the patient's guardian for publication, ensuring anonymity.

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Author Contributions

All authors contributed significantly to the conception, data collection, analysis, and interpretation of the work; participated in drafting or revising the manuscript; approved the final version; agreed on the journal of submission; and accepted responsibility for all aspects of the study.

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Disclosure

The authors declare no conflicts of interest in this work.

References

1. Canceill T, Esclassan R, Marty M, et al. Misdiagnosed tooth aspiration in a young, handicapped boy: case report and recommendations. *Case Rep Dent*. 2019;2019:8495739. doi:10.1155/2019/8495739
2. Zhang M, Zhou GJ, Zhao S, et al. Delayed diagnosis of tooth aspiration in three multiple trauma patients with mechanical ventilation. *Crit Care*. 2011;15:424. doi:10.1186/cc10148
3. Göktas Ö, Snidero S, Jahnke V, Passali D, Gregori D. Foreign body aspiration in children: field report of a German hospital. *Pediatr Int*. 2010;52(1):100–103. doi:10.1111/j.1442-200X.2009.02913.x
4. Na'ara S, Vainer I, Amit M, Gordin A. Foreign body aspiration in infants and older children: a comparative study. *Ear Nose Throat J*. 2020;99(1):47–51. doi:10.1177/0145561319839900
5. Nadjem H, Pollak S, Windisch W, Perdekamp MG, Thierauf A. Tooth aspiration: its relevance in medicolegal autopsies. *Forensic Sci Int*. 2010;200(1–3):e25–9. doi:10.1016/j.forsciint.2010.04.011
6. Zerella JT, Dimler M, McGill LC, Pippus KJ. Foreign body aspiration in children: value of radiography and complications of bronchoscopy. *J Pediatric Surg*. 1998;33(11):1651–1654. doi:10.1016/S0022-3468(98)90601-7
7. Bajaj D, Sachdeva A, Deepak D. Foreign body aspiration. *J Thoracic Dis*. 2021;13(8):5159. doi:10.21037/jtd.2020.03.94
8. Zuleika P. A case of whistle as foreign body in trachea. *Bioscientia Medicina*. 2022;6(1):1281–1286.
9. Lee SM, Baek SE, Lee CW, Kim YC, Kim MJ. Foreign body ingestion: radiologic evaluation, findings, and management. *Korean J Radiol*. 2025;26(7):638–649. doi:10.3348/kjr.2025.0118
10. Cinar U, Vural C, Turgut S. A laryngeal foreign body misdiagnosed as asthma bronchiale. *Eur J Emerg Med*. 2003;10(4):334–336. doi:10.1097/00063110-200312000-00019
11. Alabidi A. Aspiration of an incisor tooth after adenotonsillectomy in a 10-year-old Saudi boy. *East Mediterr Health J*. 2008;14:228–230.

12. Kenney JN, Laskin DM. Nasotracheal tube obstruction from a central incisor. Report of a case. *Oral Surg Oral Med Oral Pathol.* 1989;67:266–267. doi:10.1016/0030-4220(89)90350-2
13. Madan K, Aggarwal AN, Bhagat H. *et al* Acute respiratory failure following traumatic tooth aspiration. *Case Reports.* 2013;2013:bcr2012008393.
14. Karakoc F, Cakir E, Ersu R, et al. Late diagnosis of foreign body aspiration in children with chronic respiratory symptoms. *Int J Pediatric Otorhinolaryngol.* 2007;71(2):241–246. doi:10.1016/j.ijporl.2006.10.006
15. Ozdemir S, Surmelioglu O, Tarkan O, Tuncer U, Kiroglu M, Dagkiran M. The utility of endoscope-assisted rigid bronchoscopy in pediatric airway foreign body removals. *J Craniofacial Surg.* 2020;31(2):e217–9. doi:10.1097/SCS.0000000000005660
16. Goyal S, Jain S, Rai G, et al. Clinical variables responsible for early and late diagnosis of foreign body aspiration in pediatrics age group. *J Cardiothoracic Surg.* 2020;15(1):271. doi:10.1186/s13019-020-01314-9

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