ORIGINAL RESEARCH

ANAESTHETICS MANAGEMENT OF EAR, NOSE AND THROAT FOREIGN BODIES: A THREE-YEAR REVIEW AT UNIVERSITY COLLEGE HOSPITAL, IBADAN

https://doi.org/10.60787/ajrmhs.v3i1.63

Idowu K. Olusola, Orji O. Mathias*, Adebayo Kehinde, Joseph Olufunke

Faculty of Clinical Sciences, College of Medicine, University of Ibadan, Ibadan, Oyo State, Nigeria.

***Correspondence:** Orji O. Mathias; **Email:** moorji@com.ui.edu.ng

Abstract

Introduction

Foreign bodies lodged in the ear, nose, throat (ENT), esophagus, and bronchus are common clinical challenges, particularly in children. These incidents may lead to symptoms such as nasal discharge, breathing difficulties, hearing loss, or even life-threatening conditions like airway obstruction. This study focuses on foreign body cases at the University College Hospital (UCH) Ibadan, with a special emphasis on the demographics, types of foreign bodies, and outcomes of surgical interventions.

Methods

A retrospective study was conducted on 66 cases of foreign bodies in ENT over three years (January 2020 to December 2023) at UCH Ibadan. Data were gathered from clinic registration, patient case notes, and ward admission records. Variables included age, gender, clinical presentation, type of foreign body, and complications during removal. Descriptive statistics and chi-square tests were performed using SPSS version 27, with a significance level set at $p < 0.05$.

Results

The study revealed that children aged 0-5 years accounted for 42.4% of the cases, with males being the most affected (66.7%). Foreign bodies were predominantly lodged in the esophagus (56.1%), followed by the bronchus (15.2%). Inorganic objects (57.6%) such as plastic and metal were more common than organic materials (42.4%). Most foreign bodies (83.3%) were successfully removed on the first attempt, primarily through rigid esophagoscopy (62.1%), direct bronchoscopy (15.2%) and tracheostomy. General anesthesia was administered in 97% of cases.

Conclusion

Foreign body cases are prevalent among young children, especially boys. The majority of cases involve the esophagus and bronchus, with inorganic materials being the most common. Rigid esophagoscopy and bronchoscopy are effective in managing these cases, with high success rates in removal. Continued parental education and advancements in diagnostic tools may help reduce the incidence and improve outcomes.

Keywords: Foreign body, ENT, Esophagoscopy, Bronchoscopy

Cite as: ***Idowu KO, Orji OM, Adebayo K, Joseph Olufunke. Anaesthetics Management of Ear, Nose and Throat Foreign Bodies: A Three-Year Review at University College Hospital, Ibadan. AJRMHS. 2025;3(1):80-85***

INTRODUCTION

A foreign body (FB) in the ear, nose, or throat (ENT) also the bronchus, esophagus is a common clinical condition faced by emergency physicians and otolaryngologists, accounting for 11% of all ENT emergencies. If not promptly diagnosed or carefully managed, FB cases can lead to life-threatening complications and raise concerns over cost management.

Foreign bodies lodged in the nose, ear, throat, esophagus, and bronchus are common clinical challenges, particularly in children.[1] In the nose, foreign bodies like beads, toys, and food particles are typically seen in young children, often presenting with symptoms such as nasal discharge, foul smell, or breathing difficulties.[3] Similarly, foreign bodies in the ear, like insects or small objects, often cause discomfort, pain, and hearing loss. In the throat, sharp objects such as fish bones are common and can lead to swallowing difficulties or airway obstruction. Esophageal foreign bodies, like swallowed coins or dentures, often cause chest pain and drooling, while objects lodged in the bronchus can result in coughing, wheezing, and respiratory distress.[2]

The most common surgical procedure for esophageal foreign bodies is rigid esophagoscopy, used in 62.1% of cases.[4] Direct bronchoscopy is often necessary for removing objects from the bronchus, particularly when airway obstruction is a concern also tracheostomy. Ear foreign bodies are frequently managed with otoscopy, and other procedures, such as laryngoscopy, are used for more complex cases. Most procedures are performed under general anesthesia (97%) to ensure patient safety, particularly in children, although less invasive cases may only require sedation.[5]

Inorganic objects, such as plastic or metal, while organic materials like food make up.[6] Organic materials are more likely to cause inflammation and infection, especially when lodged for long periods. Bones are the most common foreign body material in the esophagus and throat, while dentures and rubber or plastic objects are also frequently seen.[7]

Airway maintenance during foreign body extraction is crucial, especially in cases involving the bronchus or esophagus.[8] Endotracheal tubes (ETT) are used in over 60% of cases to ensure the airway remains open during surgery.[9] Other methods, such as bronchoscopes or facemasks, are used depending on the complexity of the case.[10]

Most surgeries successfully remove the foreign body on the first attempt, with an 83.3% success rate.[11] However, 13.6% of procedures may fail due to the complexity of the case or misidentification of the object's location.[12] In 3% of cases, the foreign body may not be found, underscoring the importance of proper diagnostic imaging before surgery.[12]

Males tend to be more frequently affected by foreign bodies, accounting for 66.7% of cases, a trend attributed to higher levels of physical activity and risk-taking behaviors in boys. Age is also a key factor, with children aged 0-5 years being the most affected by foreign bodies, particularly organic materials like food and small toys.[13] Older children and adults tend to present with inorganic objects such as plastic, metal, or dentures.

METHODS

This retrospective study examined all cases of foreign bodies in the ear, nose, and throat (ENT) referred or self-reported at the Accident and Emergency Unit and ENT Department of University College Hospital (UCH) Ibadan, Western Nigeria. UCH is a tertiary healthcare facility serving not only not only Ibadan metropolis but also its urban and rural areas, as well as neighboring states.

The study included all patients presenting with ENT foreign bodies over a three-year period, from January 2020 to December 2023. Data were gathered from clinic registration books, ward admission records, and patients' case notes, which were retrieved from the hospital's medical records department. Parameters collected included age, gender, clinical presentation, types of foreign bodies, and complications encountered during removal. Data analysis was conducted using SPSS for Windows, version 27.0, with a p-value of less than 0.05 considered statistically significant.

For patients with esophageal or bronchial foreign bodies, X-rays of the chest (both posterior-anterior and lateral views), soft tissues of the neck (anterior-posterior and lateral views), and for one patient with a sewing needle lodged under the nasal mucosa, occipitofrontal and occipitomental views of the paranasal sinuses were conducted. Radiopaque objects were identified in these cases. No radiological imaging was performed for ear foreign bodies as they were easily diagnosed and safely removed in the clinic. Although post-operative contrast radiography was indicated for some

esophageal cases, none complied with this recommendation after the foreign bodies were removed.

RESULTS

Table 1: Showing the average age of the correspondence

Mean	N	Std. Deviation	Minimum	Maximum
19.3912	66	21.12829	.25	67.00

Table 2: Age distribution

Age group	Frequency	Percent	Valid Percent	Cumulative Percent
0 - 5	28	42.4	42.4	42.4
>5 - 18	13	19.7	19.7	62.1
>18	25	37.9	37.9	100.0
Total	66	100.0	100.0	

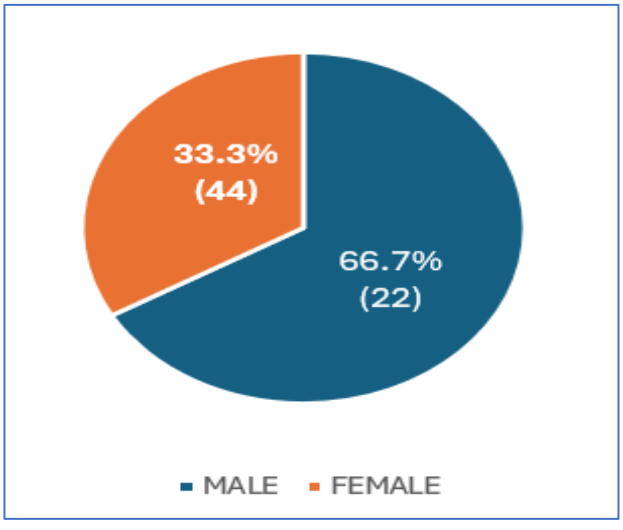

Figure 1: Sex distribution

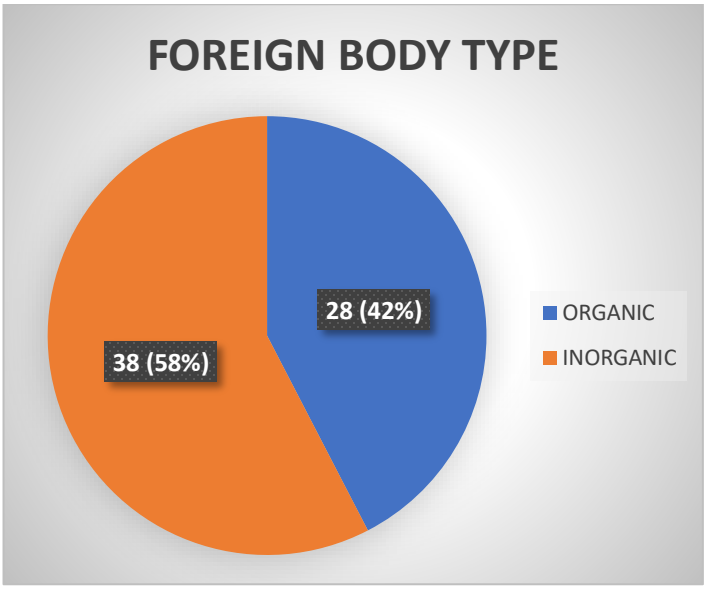

Figure 2: Distribution of foreign body types

Table 3: The foreign body materials

Foreign body	Frequency	Percent	Valid Percent	Cumulative Percent
Bone	16	24.2	24.2	24.2
Denture	13	19.7	19.7	43.9
Seed/Nuts	4	6.1	6.1	50.0
Stone/Pebble	3	4.5	4.5	54.5
Rubber/Plastic	12	18.2	18.2	72.7
Metal	10	15.2	15.2	87.9
Wood	3	4.5	4.5	92.4
Hide/Insect	2	3.0	3.0	95.5
Glass/Acrylic	3	4.5	4.5	100.0
Total	66	100.0	100.0	

Table 4: Lodgement site of the foreign bodies

Lodgement site	Frequency	Percent	Valid Percent	Cumulative Percent
Oesophagus	37	56.1	56.1	56.1
Hypothroat	8	12.1	12.1	68.2
Bronchus	10	15.2	15.2	83.3
Nose	4	6.1	6.1	89.4
Ear	7	10.6	10.6	100.0
Total	66	100.0	100.0	

Table 5: Type of surgeries done

Surgery card	Frequency	Percent	Valid Percent	Cumulative Percent
Rigid Esophagoscopy	41	62.1	62.1	62.1
Direct Bronchoscopy	10	15.2	15.2	77.3
Direct Laryngoscopy	2	3.0	3.0	80.3
Microlaryngoscopy	1	1.5	1.5	81.8
Otoscopy	9	13.6	13.6	95.5
Post Auricular Approach	1	1.5	1.5	97.0
Maxillectomy	1	1.5	1.5	98.5
Oesophagostomy	1	1.5	1.5	100.0
Total	66	100.0	100.0	

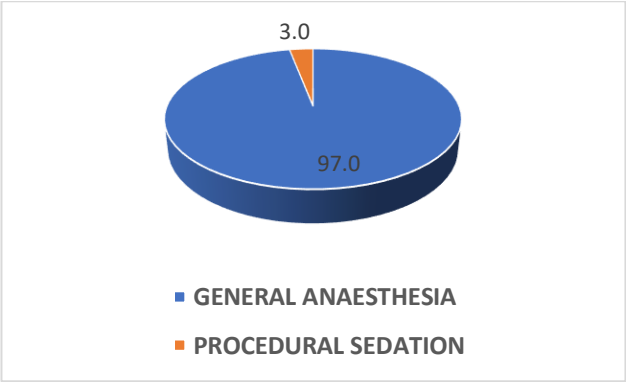

Figure 3: Type of anaesthesia

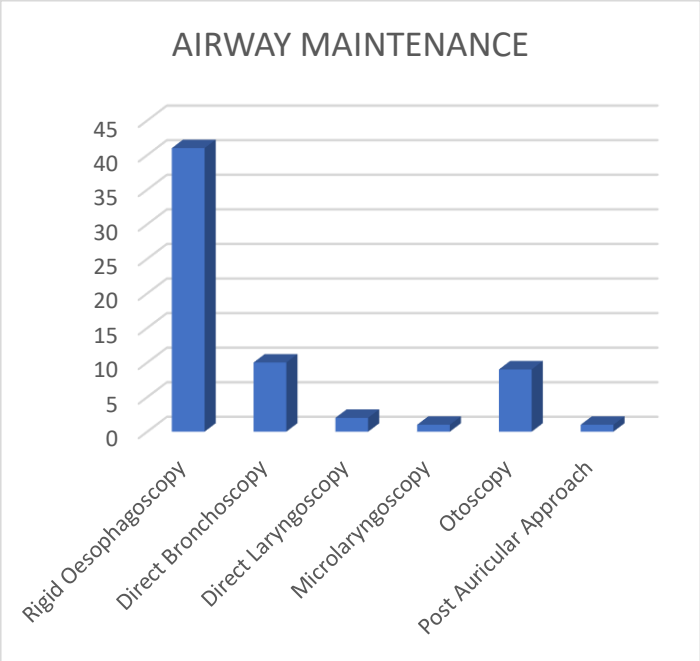

Fig 4: Airway maintenance approach

Table 6: Outcomes of the surgeries

Outcome	Frequency	Percent	Valid Percent	Cumulative Percent
Successfully Removed	55	83.3	83.3	83.3
Unsuccessful	9	13.6	13.6	97.0
Not Found	2	3.0	3.0	100.0
Total	66	100.0	100.0	

DISCUSSION

This retrospective study analyzed foreign body aspiration cases over a 3-year period at the University College Hospital in Ibadan. The data revealed that the average age of the patients was 19.39 years, with a range extending from infancy to 67 years. Notably, young children (ages 0-5) represented the largest group (42.4%), underscoring the vulnerability of this age group to foreign body incidents, particularly due to their tendency to explore objects orally. The male gender was more affected, comprising 66.7% of the cases, a trend commonly seen in foreign body aspirations, likely due to higher levels of activity and risk-taking behavior in boys.

The majority of foreign bodies were lodged in the esophagus (56.1%), followed by the bronchus (15.2%) and hypothroat (12.1%). This highlights the high incidence of esophageal obstructions, which can pose serious health risks if not promptly managed. Rigid esophagoscopy was the most frequently performed procedure (62.1%), reflecting the common need for intervention in esophageal foreign bodies. General anesthesia was the dominant method of anesthesia (97%), indicating the seriousness of many of these cases, which often require significant procedural support to ensure patient safety.

When examining the types of foreign bodies, inorganic objects were more common (57.6%) than organic ones (42.4%), with bones and dentures being the most frequently encountered materials. Inorganic objects generally cause less inflammation, but organic materials like food particles can trigger quicker and more severe reactions. Most foreign bodies were successfully removed in the first surgery (83.3%), but in 13.6% of the cases, the procedure was unsuccessful, pointing to the challenges of managing these cases effectively.

This data emphasizes the need for heightened awareness, particularly for parents of young children, about the risks of foreign body aspiration. It also underscores the critical role that skilled surgical teams play in managing these cases, with rigid esophagoscopy and bronchoscopy being essential tools in resolving the majority of incidents. Continued advancements in diagnostic tools and surgical techniques may further improve success rates and reduce complications in the future.

CONCLUSION

In conclusion, the prevalence and risks associated with foreign body aspiration, particularly in young children and males emphasize the importance of early detection and skilled intervention, with rigid esophagoscopy proving to be a crucial tool in managing the majority of cases. public awareness and further refining surgical techniques could significantly improve patient outcomes and reduce complications in the future.

REFERENCES

1. Bhatta R, Pyakurel M, Parajuli R. Types of foreign body in ear, nose and throat in western part of Nepal. Glob J Otolaryngol. 2017;4(3):1-4.
2. Kwon H, Ko G, Choi J, Ha Y, Kim S, Kim JH, et al. Aesthetic removal of foreign body granulomas of forehead via pretrichial approach. J Craniofac Surg. 2022;33(5):1591-5.
3. Oyama LC. Foreign bodies of the ear, nose and throat. Emerg Med Clin North Am. 2019;37(1):121-30.
4. Popel J, El-Hakim H, El-Matary W. Esophageal foreign body extraction in children: flexible versus rigid endoscopy. Surg Endosc. 2011;25:919-22.
5. Keil O, Schwerk N. Foreign body aspiration in children–being safe and flexible. Curr Opin Anesthesiol. 2023;36(3):334-9.
6. Sahoo L, Rath AA, Swain SK, Das SR, Pani SK, Baliarsingh P. Oral ingestion of foreign body in neonates and infants: a clinical review. Int J Contemp Pediatr. 2023;10(1):114.
7. Romero BM, Vilchez-Bravo S, Hernández-Arriaga G, Bueso-Pineda L, Franchi T, Tovani-Palone MR, et al. Factors associated with complications of foreign body ingestion and/or aspiration in children from a Peruvian hospital. Heliyon. 2023;9(2):e13274.
8. Rodríguez H, Passali GC, Gregori D, Chinski A, Tiscornia C, Botto H, et al. Management of foreign bodies in the airway and esophagus. Int J Pediatr Otorhinolaryngol. 2012;76(Suppl 1):S84-91.
9. Shostak E. Foreign body removal in children and adults: review of available techniques and emerging technologies. AME Med J. 2018;3:1-8.
10. Milisavljevic D, Stankovic M, Djordjevic N, Kovacevic T, Zivaljevic S, Stojanov D, et al. Current Approach to Diagnosis and Treatment of Foreign Body in Otorhinolaryngology [Internet]. Updates on Foreign Body in ENT Practice. IntechOpen; 2024. Available from: http://dx.doi.org/10.5772/intechopen.1004747

11. Zhang S, Cui Y, Gong X, Gu F, Chen M, Zhong B. Endoscopic management of foreign bodies in the upper gastrointestinal tract in South China: a retrospective study of 561 cases. Dig Dis Sci. 2010;55:1305-12.
12. Webb WA. Management of foreign bodies of the upper gastrointestinal tract: update. Gastrointest Endosc. 1995;41(1):39-51.
13. Lee M, Kim DJ, Jang HB, Lee BJ, Yeom JA, Kim YA, et al. Risk factors affecting the treatment outcome of pediatric foreign body aspiration: significance of time factors. Pediatr Surg Int. 2020;36:1061-6.