Original Article

Clinical Spectrum and Emergency Endoscopic Management of Foreign Body Oesophagus: An Eight-Case Series

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Abstract

Background: Oesophageal foreign body impaction is a frequent emergency presentation requiring prompt recognition, airway assessment, object localisation, and timely removal. Sharp animal bones and paediatric coin ingestion represent clinically important patterns because delayed diagnosis can lead to mucosal injury, perforation, mediastinitis, fistula formation, retropharyngeal abscess, and mortality in high-risk objects. The objective is to describe the clinical presentation, diagnostic evaluation, and emergency management pattern in an eight-patient case series of suspected or confirmed foreign body oesophagus or hypopharyngeal impaction. **Case presentation:** Eight patients aged 4 to 50 years presented with foreign body sensation, throat pain, odynophagia, or witnessed ingestion. Six patients were female and two were male. Chicken bone ingestion or impaction was documented in three patients and coin ingestion in two children. Two adult female patients had confirmed chicken-bone impaction near the hypopharyngeal/pharyngo-oesophageal region and underwent emergency endoscopic removal under general anaesthesia. In Case 1, HRCT neck with 3D reconstruction localised a linear foreign body at C4-C5; direct laryngoscopy enabled removal in toto and subsequent oesophagoscopy excluded an additional object. In Case 2, videolaryngoscopy showed saliva pooling, CT localised the object at the pharyngo-oesophageal junction, and rigid oesophagoscopy removed a chicken bone pierced into oesophageal mucosa. Immediate post-extubation recovery was uneventful in both operative cases. **Conclusion:** Foreign body oesophagus requires risk-based triage. Sharp bones, symptomatic oesophageal coins, complete obstruction, button batteries, magnets, and suspected perforation need urgent specialist evaluation. This series highlights the value of videolaryngoscopy, CT localisation for sharp radiolucent objects, and definitive removal by direct laryngoscopy or rigid oesophagoscopy when the foreign body is impacted near the cricopharyngeal/upper oesophageal region.

Keywords: foreign body oesophagus; chicken bone; coin ingestion; rigid oesophagoscopy; direct laryngoscopy; hypopharynx; case series.

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Introduction

Foreign body ingestion is a common emergency encountered by otorhinolaryngology, emergency medicine, paediatric, and gastroenterology teams. In children, ingestion is usually accidental and often involves coins, toys, button batteries, magnets, or small household objects. In adults, food bolus impaction, sharp animal bones, dentures, and accidentally swallowed objects are frequent, with risk influenced by dietary habits, dentition, neurological status, altered sensorium, psychiatric illness, and underlying oesophageal disease.[1-6]

The oesophagus is a clinically important site because impaction can produce dysphagia, odynophagia, pooling of saliva, pricking foreign body sensation, retching, regurgitation, cough, chest discomfort, or airway symptoms. The upper oesophageal sphincter and cricopharyngeal region are common sites of obstruction because of physiological narrowing. Delayed recognition is hazardous in children, elderly individuals, denture users, patients with impaired communication, and patients ingesting sharp or corrosive objects.[1-5]

Most ingested objects that reach the stomach pass spontaneously. Nevertheless, 10%-20% of patients with foreign body ingestion require endoscopic retrieval, while a smaller subset require surgical intervention. Sharp-pointed foreign bodies, animal bones, oesophageal button batteries, multiple magnets, complete oesophageal obstruction, and symptoms suggesting perforation require urgent or emergency management. Current society guidance emphasises history, physical examination, airway assessment, radiological localisation when required, and removal based on object type, anatomical site, symptoms, and time from ingestion.[1-3,5]

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Imaging should be selected according to the suspected object. Coins are commonly radiopaque, whereas many fish and chicken bones can be difficult to visualise on plain radiography. Computed tomography is valuable when a radiolucent sharp object is suspected, when symptoms persist despite negative radiography, or when complications such as perforation, retropharyngeal abscess, or mediastinitis are considered.[2,5,7-11] Definitive treatment may involve flexible endoscopy, rigid oesophagoscopy, or direct laryngoscopy depending on object location, airway concerns, and local expertise.[5-9]

This case series presents eight patients with suspected or confirmed foreign body oesophagus or hypopharyngeal impaction, with detailed operative documentation from confirmed chicken-bone impactions. The objective was to describe the clinical spectrum, diagnostic work-up, endoscopic management, and practical lessons relevant to emergency ENT care.

Materials and Methods

Study design and reporting framework: This retrospective descriptive case series was prepared from anonymised casualty and ENT case records. The manuscript follows a case-series reporting structure, with emphasis on patient demographics, presenting symptoms, diagnostic evaluation, foreign body characteristics, intervention, immediate outcome, and clinically relevant discussion points.[14]

No experimental intervention was performed for research purposes. All patients were managed according to routine emergency ENT practice and object-specific clinical risk.

Study setting: The cases were managed through the casualty and ENT services of KIMS, Narketpally, Telangana, India. The clinical pathway included emergency assessment, oral cavity and oropharyngeal examination, indirect or video laryngoscopy where indicated, imaging when clinically required, pre-anaesthetic/surgical profile assessment, and endoscopic removal under general anaesthesia for impacted foreign bodies.

Eligibility criteria: Patients were included when the clinical record described foreign body sensation in the throat, suspected foreign body ingestion, witnessed ingestion, confirmed oesophageal/hypopharyngeal foreign body, or operative removal of an ingested object from the upper aerodigestive tract. Presentations unrelated to foreign body ingestion or foreign body sensation were excluded.

Data variables: The extracted variables included age, sex, presenting complaint, time since ingestion or symptom onset, suspected or confirmed object, dysphagia/odynophagia, respiratory symptoms, oral cavity/oropharyngeal and neck findings, indirect/video laryngoscopy findings, imaging, anatomical level of impaction, operative procedure, intraoperative findings, completeness of removal, immediate recovery, postoperative orders, and follow-up where recorded in the hospital case file.

Ethical considerations: The case series was prepared using anonymised clinical information after institutional permission. The retrospective descriptive design was handled according to local Institutional Ethics Committee requirements. Written informed consent for publication of anonymised clinical information and images was obtained from adult patients and from parents/guardians for paediatric patients. All figure files were de-identified before manuscript preparation.

Case Presentations

Case 1

A 31-year-old female healthcare worker presented to casualty with a 24-hour history of pricking foreign body sensation in the throat immediately after ingestion of a chicken piece with bone. The symptom was associated with pain during swallowing for both solids and liquids. There was no history of change in voice, cough, blood-stained sputum, chest pain, regurgitation of food, breathing difficulty, or associated ear/nasal symptoms.

Past history was unremarkable. She had no previous similar episode, no known diabetes mellitus, hypertension, asthma, or thyroid disease, and no previous ENT surgery. Appetite, diet, bowel and bladder habits, and sleep were normal; there was no addiction history. Family history was non-contributory.

General examination showed that the patient was conscious, coherent, cooperative, and oriented. She was moderately built and nourished. There was no pallor, icterus, cyanosis, clubbing, pedal oedema, or lymphadenopathy. Vitals were stable: temperature 98.6°F, pulse 78/min, respiratory rate 16/min, and blood pressure 130/90 mmHg.

Oral cavity examination was essentially normal. Mouth opening was adequate. Lips, gums, teeth, gingivolabial and gingivobuccal sulci, buccal mucosa, hard palate, anterior two-thirds of tongue, floor of mouth, and retromolar trigone were normal. Oropharyngeal examination showed normal soft palate, uvula, anterior pillars, and posterior pharyngeal wall; bilateral grade 1 tonsillar hypertrophy and mild congestion of the bilateral posterior pillars were noted.

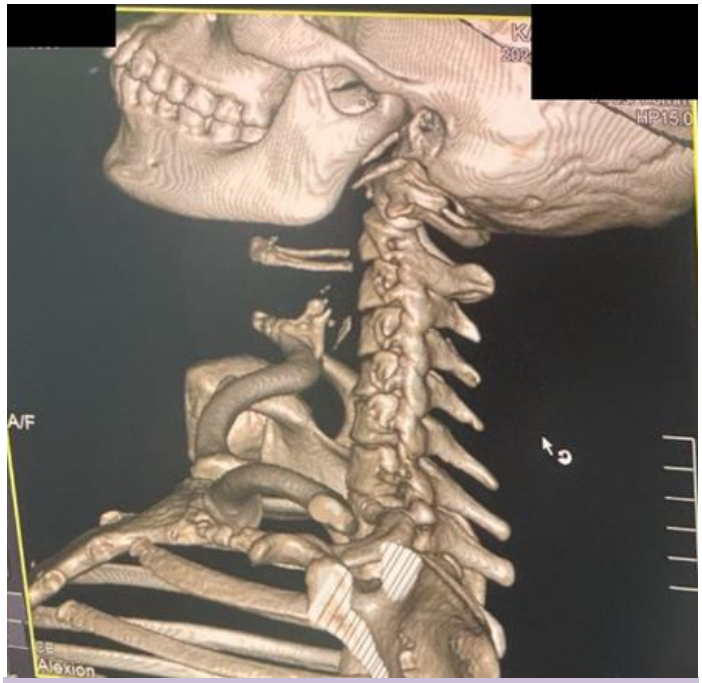


Figure 1. Case 1: HRCT neck with 3D reconstruction showing a linear foreign body at approximately the C4-C5 level, consistent with chicken bone impaction in the hypopharyngeal/upper oesophageal region.

Indirect laryngoscopy showed normal base of tongue, valleculae, median glossoepiglottic fold, epiglottis, aryepiglottic folds, arytenoids, and bilateral mobile symmetrical vocal folds. Minimal pooling of saliva was noted in the bilateral pyriform fossae. Neck examination revealed a normal laryngeal framework, central trachea, no visible swelling, preserved laryngeal crepitus, and no palpable lymph nodes. Ear and nose examinations were normal.

Videolaryngoscopy reproduced the laryngoscopic findings and demonstrated minimal pooling of saliva in the bilateral pyriform fossae. Surgical profile was normal. HRCT neck with 3D reconstruction showed a 2-3 cm linear hypodense focus in the prevertebral soft tissue at C4-C5, likely within the oesophagus, suggestive of an impacted foreign body. Visualised bones and the rest of the soft tissue neck were normal. A diagnosis of chicken bone foreign body at the C4-C5 level/hypopharyngeal-upper oesophageal region was made.

The patient was taken for emergency foreign body removal by direct laryngoscopy under general anaesthesia. Under aseptic precautions, she was positioned supine with neck flexion and head extension. Oroendotracheal intubation was performed using a 6.5-mm cuffed flexometallic tube. A direct laryngoscope was introduced from the right angle of the mouth up to the right pyriform fossa. An impacted chicken bone was visualised above the right cricopharyngeal mucosa and removed in toto. Oesophagoscopy was then performed to inspect for any additional foreign body. Haemostasis was secured and the patient was shifted to the postoperative area after uneventful extubation.

Postoperative orders included nil by mouth initially followed by soft bland diet, head-end elevation by 10-15 degrees, intravenous fluids, intravenous amoxicillin-clavulanate, pantoprazole, paracetamol, ondansetron as needed, tranexamic acid as needed, hydrocortisone stat dose, vital monitoring, and review if symptoms developed. No immediate postoperative complication was documented.

Figure 2. Case 1: Intraoperative field during direct laryngoscopic removal under general anaesthesia.

Figure 3. Case 1: Retrieved chicken bone after removal in toto, shown with syringe scale.

Case 2

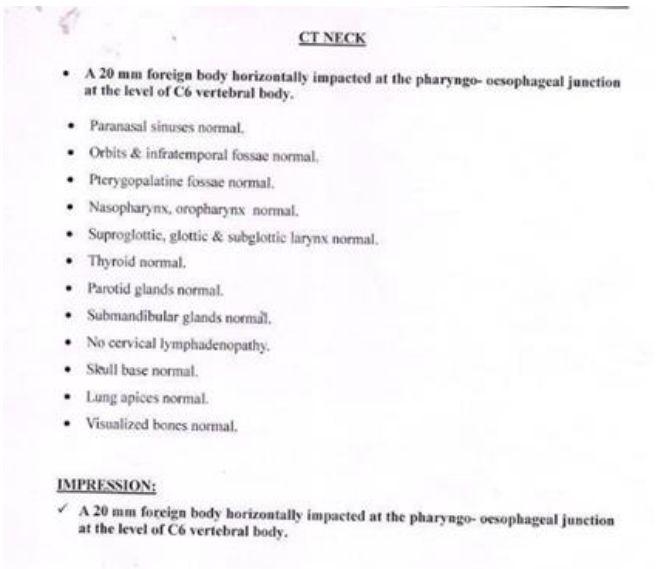
A 22-year-old female homemaker presented to casualty with foreign body sensation in the throat since the previous night. Odynophagia was present. There was no breathing difficulty.

There was no history of similar complaints, diabetes mellitus, hypertension, asthma, thyroid disease, or previous ENT surgery. Personal history was normal and family history was non-contributory.

On general physical examination, the patient was conscious, coherent, cooperative, oriented, moderately built, and moderately nourished. There was no pallor, icterus, cyanosis, clubbing, pedal oedema, or lymphadenopathy. Vitals were stable: temperature 98.6°F, pulse 97/min, respiratory rate 17/min, and blood pressure 110/90 mmHg.

Oral cavity and oropharyngeal examinations were normal. Indirect laryngoscopy was normal. Neck examination showed a central trachea, normal laryngeal framework, no visible neck swelling, preserved laryngeal crepitus, and no palpable lymph nodes. Ear and nose examinations were normal.

Videolaryngoscopy showed normal base of tongue, valleculae, median glossoepiglottic fold, epiglottis, aryepiglottic folds, arytenoids, and bilaterally mobile symmetrical vocal folds. Pooling of saliva was noted in the bilateral pyriform fossae. Surgical profile was normal. CT documentation localised a 20-mm foreign body horizontally impacted at the pharyngo-oesophageal junction at the C6 vertebral body level. The operative note described the foreign body in the upper oesophageal region around C4-C5, consistent with an impacted sharp object near the cricopharyngeal/pharyngo-oesophageal segment.



CT NECK

- A 20 mm foreign body horizontally impacted at the pharyngo- oesophageal junction at the level of C6 vertebral body.
- Paranasal sinuses normal.
- Orbits & infratemporal fossae normal.
- Pterygopalatine fossae normal.
- Nasopharynx, oropharynx normal.
- Supraglottic, glottic & subglottic larynx normal.
- Thyroid normal.
- Parotid glands normal.
- Submandibular glands normal.
- No cervical lymphadenopathy.
- Skull base normal.
- Lung apices normal.
- Visualized bones normal.

IMPRESSION:

✓ A 20 mm foreign body horizontally impacted at the pharyngo- oesophageal junction at the level of C6 vertebral body.

Figure 4: Case 2: De-identified CT neck report documenting a 20-mm foreign body impacted at the pharyngo-oesophageal junction at the C6 vertebral body level.

Figure 5. Case 2: CT 3D reconstruction demonstrating foreign body localisation in the upper aerodigestive tract/upper oesophageal region.

Emergency rigid oesophagoscopic removal was performed under general anaesthesia. Under aseptic precautions, the patient was placed supine. Oroendotracheal intubation was performed with a 6.5-mm cuffed endotracheal tube. A rigid oesophagoscope was passed from the right side of the tongue. The base of tongue was reached, the epiglottis was lifted, the right pyriform fossa and arytenoids were identified, and the instrument was advanced 1-2 cm into the oesophagus. A chicken bone foreign body was seen pierced into the oesophageal mucosa. It was dislodged and removed in toto. The lumen was inspected, haemostasis was secured, and the patient was shifted to the postoperative area after uneventful extubation.

Postoperative monitoring was continued according to the emergency ENT protocol. The immediate post-anaesthesia recovery period was uneventful.

Figure 6. Case 2: Retrieved foreign body after rigid oesophagoscopic removal, shown with scale.

Brief clinical summaries of Cases 3-8

Case 3: A 17-year-old female presented to casualty with foreign body sensation in the throat since the previous night. She was triaged as a suspected upper aerodigestive tract foreign body presentation in the adolescent subgroup.

Case 4: A 4-year-old male child was brought to casualty by his father after coin ingestion in the afternoon. This presentation represented paediatric witnessed coin ingestion, which requires differentiation from button battery ingestion and object localisation according to standard emergency protocols.

Case 5: A 50-year-old female presented to the ENT outpatient department with throat pain for 3 days. She was evaluated as an adult throat foreign body/foreign body sensation presentation.

Case 6: A 35-year-old female presented to casualty after alleged chicken bone ingestion at home at approximately 8:30 pm. This presentation belonged to the adult sharp-object ingestion pattern.

Case 7: A 5-year-old girl was brought to casualty by her mother after alleged coin ingestion on the previous evening at home. This presentation represented paediatric coin ingestion with a symptom duration extending into the next day.

Case 8: A 43-year-old male presented to the ENT outpatient department with foreign body sensation in the throat since the

previous day. He was categorised as an adult suspected upper aerodigestive tract foreign body presentation.

Results

Eight patients were included in the case series. Age ranged from 4 to 50 years. Six patients were female and two were male. Three patients had chicken bone ingestion or impaction, two children had coin ingestion, and three patients were categorised as suspected upper aerodigestive tract foreign body/foreign body sensation presentations. Two adult female patients had confirmed operative chicken bone impaction near the hypopharyngeal/pharyngo-oesophageal segment and underwent emergency removal under general anaesthesia.

In the detailed operative cases, both patients presented with foreign body sensation and odynophagia without respiratory distress. Videolaryngoscopy showed pooling of saliva in the pyriform fossae. CT-based localisation supported the diagnosis in the two confirmed sharp-bone cases. Removal in toto was achieved by direct laryngoscopy in Case 1 and rigid oesophagoscopy in Case 2. Both patients had uneventful immediate extubation and postoperative transfer.

Table 1: Patient-level clinical summary of the eight-case series

Case	Age/Sex	Presentation	Object or clinical category	Key clinical note
1	31/F	Foreign body sensation and odynophagia for 24 h after chicken bone ingestion	Chicken bone	HRCT localised a linear object at C4-C5; emergency direct laryngoscopic removal in toto
2	22/F	Foreign body sensation since previous night with odynophagia	Chicken bone	CT localised object at pharyngo-oesophageal junction; rigid oesophagoscopy removed bone pierced into mucosa
3	17/F	Foreign body sensation since previous night	Chicken bone/coin	Adolescent emergency presentation
4	4/M	Witnessed coin ingestion in afternoon	Coin ingestion	Paediatric witnessed ingestion requiring object localisation and risk-based triage
5	50/F	Throat pain for 3 days	Adult throat foreign body/foreign body sensation presentation	ENT outpatient presentation
6	35/F	Alleged chicken bone ingestion at home around 8:30 pm	Chicken bone ingestion	Adult sharp-object ingestion pattern
7	5/F	Alleged coin ingestion previous evening	Coin ingestion	Paediatric ingestion with next-day presentation
8	43/M	Foreign body sensation since previous day	Suspected upper aerodigestive tract foreign body	Adult ENT outpatient presentation

Table 2: Detailed operative profile of confirmed chicken bone impaction cases

Variable	Case 1	Case 2
Age/sex	31-year-old female	22-year-old female
Time from symptom onset	Approximately 24 hours	Since previous night
Main symptom	Pricking foreign body sensation and painful swallowing for solids/liquids	Foreign body sensation and odynophagia
Airway symptoms	Absent	Absent
Videolaryngoscopy	Minimal pooling of saliva in bilateral pyriform fossae	Pooling of saliva in bilateral pyriform fossae
Imaging/localisation	HRCT neck: 2-3 cm linear focus at C4-C5, likely oesophageal foreign body	CT: 20-mm object at pharyngo-oesophageal junction/C6; operative upper oesophageal localisation
Procedure	Direct laryngoscopic removal under general anaesthesia with subsequent oesophagoscopy	Rigid oesophagoscopic removal under general anaesthesia
Intraoperative finding	Chicken bone visualised above right cricopharyngeal mucosa	Chicken bone pierced into oesophageal mucosa
Completeness of removal	Removed in toto	Removed in toto
Immediate outcome	Uneventful extubation; oesophagoscopy excluded an additional foreign body	Uneventful extubation; lumen inspected and haemostasis secured

Discussion

This case series demonstrates the mixed adult and paediatric spectrum of suspected or confirmed foreign body oesophagus. The two dominant object categories were sharp chicken bone ingestion in adults and coin ingestion in children. This distribution is consistent with published reports in which adults commonly present with food bolus or bone-related impaction, whereas children frequently present after accidental coin ingestion.[4,6,12,13]

Cases 1 and 2 are clinically important because both involved chicken bone impaction near the hypopharynx/pharyngo-oesophageal junction. Sharp bones can lodge at the cricopharyngeal region, penetrate mucosa, and predispose to perforation or deep neck infection when removal is delayed. The operative description in Case 2, where the bone was pierced into oesophageal mucosa, reinforces the recommendation for urgent intervention in sharp-pointed objects.[8,11]

The symptom pattern in the detailed cases was typical. Foreign body sensation and odynophagia were prominent, whereas respiratory compromise was absent. Pooling of saliva in the pyriform fossae on videolaryngoscopy served as an indirect sign of obstruction or impaired clearance. A normal oral cavity and

oropharynx do not exclude an impacted upper oesophageal object; persistent localised symptoms after bone ingestion require further evaluation.[2,5,9]

Imaging choice must be individualised. Plain radiography is useful for coins and other radiopaque objects, while chicken and fish bones are not consistently visible. CT was valuable in this series because it localised sharp foreign bodies in the upper aerodigestive tract. CT is particularly useful for radiolucent sharp objects, persistent symptoms despite uncertain radiography, and suspected complications such as perforation, abscess, or mediastinitis.[2,5,8,11]

The mode of removal depends on object location, airway safety, operator expertise, and available equipment. Direct laryngoscopy is useful for hypopharyngeal or cricopharyngeal foreign bodies accessible through the pyriform fossa region. Rigid oesophagoscopy provides airway-controlled access for upper oesophageal impaction and is valuable when a sharp object is embedded in mucosa. Flexible endoscopy remains widely used for many adult upper gastrointestinal foreign bodies, especially below the upper oesophageal sphincter.[5-10]

Paediatric coin ingestion requires careful differentiation from button battery ingestion. A button battery in the oesophagus is an emergency because rapid tissue injury can occur. Coins lodged in the oesophagus also require timely removal depending on symptoms, location, age, object size, and duration. Therefore, frontal and lateral radiographic assessment, careful history, and early specialist review are essential in paediatric witnessed ingestion.[3,4,13]

Timing is an important determinant of outcome. Published studies show higher risk of complications with sharp-pointed objects and prolonged impaction. Hong et al. identified sharp objects and longer impaction duration as factors associated with complications, while Zhang et al. reported different clinical outcomes according to the interval from ingestion to effective treatment.[8,11] In the present series, a 24-hour symptom duration in Case 1 and mucosal penetration in Case 2 highlight the practical need for early removal.

The postoperative plan in Case 1 included initial nil-by-mouth status, gradual soft bland diet, head-end elevation, intravenous fluids, antibiotic therapy, proton-pump inhibitor, analgesia, antiemetic support, and monitoring. Such measures are appropriate after removal of a sharp foreign body, particularly when mucosal penetration, abrasion, or local inflammation is suspected. Documentation of mucosal status, haemostasis, oral intake tolerance, fever, chest pain, neck pain, and follow-up symptoms is useful for clinical audit and publication quality.

Practical management points

- Document object type, time of ingestion, witnessed or unwitnessed event, choking, dysphagia, odynophagia, drooling, vomiting, chest pain, fever, and respiratory symptoms.
- Assess airway status first, particularly in children, elderly patients, non-verbal patients, and patients with complete obstruction.
- Use videolaryngoscopy when symptoms localise to the throat, hypopharynx, or pyriform sinus region.
- Use CT neck/chest for suspected sharp radiolucent bones, persistent symptoms despite uncertain radiography, or suspected perforation or deep neck infection.
- Treat sharp bones, button batteries, magnets, complete obstruction, and symptomatic oesophageal foreign bodies as urgent specialist conditions.
- In the operative record, state object type, exact level, instrument used, mucosal injury, completeness of removal, haemostasis, second-look inspection, complications, and postoperative plan.

Strengths and Limitations: The strength of this case series is that it reflects real-world emergency ENT presentations across paediatric and adult age groups, with radiological and operative documentation for two confirmed sharp-bone impactions. The inclusion of de-identified clinical images strengthens anatomical localisation and procedural clarity.

The main limitations are the small sample size, retrospective design, heterogeneity of object type, and limited follow-up beyond immediate postoperative recovery in the detailed operative cases. The findings are therefore descriptive and intended to support clinical learning rather than infer comparative efficacy.

Conclusion

Foreign body oesophagus occurs across paediatric and adult age groups, with coins common in children and sharp animal bones important in adults. Chicken bone impaction near the cricopharyngeal/pharyngo-oesophageal region can be safely managed by emergency direct laryngoscopy or rigid oesophagoscopy when localisation, airway control, and operative expertise are adequate.

Early recognition of high-risk objects, appropriate imaging, complete endoscopic removal, and careful postoperative observation reduce morbidity. Persistent foreign body sensation with odynophagia after bone ingestion deserves active evaluation even when oral cavity and routine throat examination are normal.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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