



Case Series: Esophageal foreign body due to denture ingestion

Made Delima Arysudana * and Luh Witari Indrayani

Department of ENT, Sanjiwani General Hospital, Gianyar, Bali, Indonesia.

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Abstract

Background: Esophageal foreign body is an emergency frequently encountered in Otorhinolaryngology–Head and Neck Surgery practice in the adult population, particularly in individuals over 40 years of age and the elderly. In adults, commonly ingested foreign bodies include bones, meat, and dentures, with dentures considered high-risk objects due to their large size, irregular shape, and metal components that can easily become impacted and injure the esophageal mucosa

Purpose: This case report aims to describe the clinical presentation, diagnosis, and management of an esophageal foreign body caused by denture ingestion in an adult patient treated with esophagoscopy.

Methods: A 46-year-old male presented to the emergency department with complaints of odynophagia and difficulty swallowing both liquids and solids after suspected denture ingestion. The patient was diagnosed with an esophageal foreign body due to denture and underwent esophagoscopy under general anesthesia.

Conclusion: This case demonstrates that esophagoscopy is an effective and safe method for the management of esophageal foreign bodies caused by denture ingestion in adults. Early diagnosis through clinical history and radiographic evaluation, along with prompt intervention, plays a crucial role in preventing complications such as mucosal erosion, perforation, and mediastinitis. Education regarding proper denture use and regular dental follow-up is also important as a preventive measure against accidental denture ingestion in the adult population.

Keywords: Esophageal Foreign Body; Denture; Adult; Esophagoscopy

1. Introduction

Esophageal foreign body is one of the emergency conditions commonly encountered in Otorhinolaryngology–Head and Neck Surgery (ENT-HNS). In adults, particularly the elderly, the risk of foreign body ingestion increases due to physiological changes and comorbid conditions. Predisposing factors include decreased swallowing reflex, reduced oropharyngeal sensation, impaired neuromuscular coordination, use of dentures, and decreased level of consciousness due to sedative drugs or alcohol. Additionally, neurological disorders such as stroke, Parkinson's disease, and dementia also play a significant role in increasing the risk of aspiration and foreign body impaction in the esophagus (Asil et al., 2022).

Several studies have reported that more than 70% of foreign body ingestion cases in adults occur in individuals over 40 years old, with peak incidence in the elderly population. The most commonly encountered foreign bodies in adults include bones, fish bones, meat, and dentures. The use of damaged, loose, or ill-fitting dentures is a major risk factor for accidental ingestion, which is often unnoticed by patients (Arif and Asari, 2024; Asil et al., 2024).

* Corresponding author: Made Delima Arysudana

Dentures are considered high-risk foreign bodies because they often contain sharp metal components, have large sizes, and irregular shapes, making them prone to impaction and mucosal injury. Furthermore, most dentures are made of acrylic material, which is radiolucent and difficult to detect on radiographic imaging, potentially leading to delayed diagnosis (Asil et al., 2024).

Clinically, esophageal foreign bodies in adults can present with a wide range of symptoms, including odynophagia, dysphagia, sensation of a foreign body in the throat or chest, hypersalivation, and regurgitation. Delayed diagnosis and management may result in serious complications such as mucosal ulceration, esophageal perforation, mediastinitis, and sepsis. Therefore, early detection through thorough history taking, physical examination, and radiological confirmation is essential for appropriate management (Kumar et al., 2023).

Management of esophageal foreign bodies must be performed promptly and appropriately to prevent serious complications such as mucosal erosion, perforation, mediastinitis, and bleeding. Treatment depends on the type of object, location, duration of impaction, and the patient's clinical condition. In cases of impacted dentures with associated symptoms, esophagoscopy is one of the preferred treatment methods as it provides direct visualization and good control during extraction (Fahmi and Asari, 2024).

This case report discusses a male patient who ingested a denture and presented with clinical symptoms, with radiological findings showing a foreign body in the esophageal projection at Sanjivani General Hospital, Gianyar.

2. Case report

A 46-year-old male presented to the emergency department of Sanjivani General Hospital, Gianyar, with a chief complaint of painful swallowing (odynophagia) after suspected denture ingestion. The patient also reported difficulty swallowing both liquids and solids since the incident. On physical examination, the patient was fully conscious (GCS 15). Vital signs were within normal limits, with a pulse rate of 80 beats per minute, body temperature of 36.5°C, respiratory rate of 20 breaths per minute, and oxygen saturation (SpO₂) of 97%.

Ear, nose, and throat examination revealed normal findings. Both ears were within normal limits, with no tenderness on auricular traction or tragus pressure. The external auditory canals were patent without cerumen or discharge, and the tympanic membranes were intact bilaterally. Nasal examination showed patent nasal cavities bilaterally, pink mucosa, non-congested turbinate's, no discharge, and no septal deviation. Oropharyngeal examination revealed pink pharyngeal mucosa, tonsils graded T1/T1, and no visible foreign body.

A chest X-ray (posteroanterior view) demonstrated a radiopaque curved wire-like structure projected in the proximal cervical esophagus at the level of cervical vertebrae C6–C7. This finding was consistent with the metallic component of a partial denture impacted in the esophagus.



Figure 1 Posteroanterior (PA) chest X-ray

Based on the history, physical examination, and supporting investigations, the patient was diagnosed with an esophageal foreign body due to denture ingestion. Initial management included intravenous fluids (0.9% NaCl with D5% in a 2:1 ratio at 20 drops per minute), ceftriaxone 1 g intravenously every 12 hours, methylprednisolone 62.5 mg intravenously every 12 hours, and omeprazole 40 mg intravenously every 12 hours. The patient was kept nil per os and prepared for esophagoscopy.

The procedure was performed on November 15, 2025, using rigid esophagoscopy under general anesthesia. Intraoperative evaluation revealed a partial denture with a metal wire impacted in the proximal (cervical) esophagus. The foreign body was adherent to the esophageal wall, with surrounding mucosal edema but no evidence of perforation or active bleeding. Careful extraction was performed using esophagoscopy forceps, and the denture was successfully removed intact. Post-extraction evaluation showed mild mucosal erosion without perforation, necrosis, or active bleeding.



Figure 2 Esophageal foreign body in the form of a denture

The patient was monitored in the recovery room with stable vital signs. Observation was continued for 24 hours, and the patient received analgesics and antibiotics. Symptoms of odynophagia gradually improved after the procedure. No post-procedural complications such as severe dysphagia, hematemesis, fever, or respiratory distress were observed. Clinically, the patient showed significant improvement, with improved ability to swallow liquids and reduced sensation of obstruction in the throat. The patient was discharged in good condition with education regarding proper denture use, risks of accidental ingestion, and the importance of regular dental follow-up to prevent recurrence and late complications such as esophageal stricture or residual mucosal injury.

3. Discussion

Esophageal foreign body is a common emergency encountered in ENT-HNS practice, particularly in adults over 40 years of age and the elderly. Unlike in children, foreign bodies in adults tend to be larger and have irregular shapes, increasing the likelihood of impaction in the esophagus. This is associated with predisposing factors such as impaired swallowing reflex, neurological disorders, and decreased oropharyngeal sensation (Geng et al., 2021).

Common foreign bodies in adults include meat, bones, and dentures. Dentures account for approximately 4–18% of esophageal foreign body cases, particularly in elderly patients and denture users. These findings indicate that denture ingestion is not uncommon and has significant clinical implications due to its size, shape, and metal components, which increase the risk of impaction and complications (Yoo et al., 2021; Fahmi and Asari, 2024).

In this case, the foreign body was located in the cervical esophagus, which is the most common site of impaction, particularly at the cricopharyngeal sphincter. This area is anatomically the narrowest part of the esophagus, making it prone to obstruction. Delayed management in this region increases the risk of complications such as perforation, mediastinitis, and airway compromise (Xu et al., 2022).

Clinically, the patient presented with dysphagia, odynophagia, and a sensation of a foreign body in the throat, which are typical symptoms of esophageal foreign body. In denture cases, symptoms are often more severe due to sharp edges and larger size, which can cause mucosal injury. Delayed management may lead to complications such as ulceration, perforation, and mediastinitis (Asil et al., 2024).

Radiographic examination, including chest and neck X-rays, is essential for identifying the location and type of foreign body. In this case, the radiograph showed a radiopaque metallic component consistent with a denture wire. However, not all dentures are radiopaque; therefore, clinical correlation remains important (Markov, 2025).

Management depends on the type, location, and symptoms. Esophagoscopy remains the standard treatment, especially for foreign bodies in the cervical esophagus, as it allows direct visualization and controlled extraction. If the object is visible during intubation, Magill forceps may be used (Ikenberry et al., 2021). In this case, the denture was successfully removed without complications.

Esophagoscopy should be performed carefully due to the higher risk of mucosal injury and perforation. General anesthesia is often recommended to improve safety and patient comfort. Early intervention within 24 hours significantly reduces complication rates (Zhou et al., 2022). In this case, only mild mucosal erosion was observed, and the patient showed rapid clinical improvement.

Studies have reported high success rates and low complication rates with esophagoscopy. Xu et al. (2022) reported success rates above 94%, and similar findings were reported in Indonesia by Suka dana et al. (2023). Preventive measures include patient education regarding proper denture use and maintenance. Risk factors include eating too quickly, consuming hard foods, and using loose or ill-fitting dentures. Lack of regular dental follow-up also contributes to accidental ingestion (Tamin et al., 2024; Yang et al., 2025). Overall, this case report highlights the importance of early diagnosis, appropriate radiographic evaluation, and prompt intervention to prevent serious complications.

4. Conclusion

Esophageal foreign body in adults is an ENT emergency requiring prompt diagnosis and management to prevent serious complications. Dentures are considered high-risk foreign bodies due to their large size, irregular shape, and metal components, which increase the risk of impaction and mucosal injury.

In this case, the denture was impacted in the cervical esophagus, the most common site of impaction. Clinical manifestations included dysphagia and a sensation of obstruction in the throat, which are typical features of esophageal foreign body.

Radiographic examination plays an important role in identifying the location and type of foreign body, especially when metallic components are present. Esophagoscopy proved to be an effective and safe method for removing the foreign body without major complications.

Successful management depends on early diagnosis, type and location of the object, and timely intervention, particularly within the first 24 hours. Preventive education regarding proper denture use, regular dental follow-up, and avoidance of risky eating habits is essential in reducing the incidence of denture ingestion.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Statement of informed consent

Informed consent was obtained from the patient's parents/guardian for publication of this case report and accompanying images.

References

- [1] Asil, R. S., Zamani, A., Fooladi, Z., and Hatampour, K. (2024). A swallowed denture leading to misdiagnosis with esophageal neoplasm: A case report. *Oxford Medical Case Reports*, 2024(7), 269–271.
- [2] Fahmi, A., and Asyari, A. (2024). Keterlambatan diagnosis dan tatalaksana benda asing koin di esofagus. *Jurnal Otorinolaringologi Kepala dan Leher Indonesia*, 3(1), 48–61.
- [3] Geng, C., Li, X., Luo, R., et al. (2021). Endoscopic management of foreign bodies in the upper gastrointestinal tract: Analysis of adult cases. *BMC Gastroenterology*, 21, 417.
- [4] Ikenberry, S. O., Jue, T. L., Anderson, M. A., Appalaneni, V., Banerjee, S., Ben-Menachem, T., Decker, G. A., Fanelli, R. D., Fisher, L. R., Fukami, N., Harrison, M. E., Jain, R., Khan, K., Krinsky, M. L., Maple, J. T., Sharaf, R. N., Dominitz,

- J. A., and Cash, B. D. (2021). Management of ingested foreign bodies and food impactions. *Gastrointestinal Endoscopy*, 93(2), 1–8.
- [5] Kumar, P., Sachdeva, M., and Kumar, B. (2023). Neglected foreign body in esophagus treated as chest infection: A case report. *The Egyptian Journal of Otolaryngology*, 39, 68.
- [6] Markov, S. S. S. (2025). Foreign bodies in the esophagus in children and adults: A five-year experience. *Folia Medica (Plovdiv)*, 67(3), e148325.
- [7] Sukadana, I. G. A., Putra, M., and Dewi, P. (2023). Profil kasus korpus alienum esofagus di RSUP Sanglah Denpasar tahun 2018–2022. *E-Jurnal Medika Udayana*, 12(2), 113–120.
- [8] Tamin, S., Koento, T., Hutaaruk, S. M., Supit, I., and Ardiantara, S. (2024). Vocal cord immobility after lateral pharyngotomy extraction of the impacted dentures in the upper esophagus: A case report. *Dental Journal (Majalah Kedokteran Gigi)*, 27(1), 43–48.
- [9] Xu, X., Wang, K., Li, Y., et al. (2022). Esophageal foreign bodies in children: A retrospective analysis of 1,355 cases. *Frontiers in Pediatrics*, 10, 847326.
- [10] Yang, H., Chen, H.-Y., Men, C.-E., Shen, C.-H., and Chen, H.-M. (2025). Accidental ingestion or aspiration of foreign bodies in special needs patients during dental procedures: A retrospective study. *Journal of Dental Sciences*, 20, 1196–1203.
- [11] Yoo, D. R., Im, C. B., Jun, B. G., et al. (2021). Clinical outcomes of endoscopic removal of foreign bodies from the upper gastrointestinal tract. *BMC Gastroenterology*, 21, 385.
- [12] Zhou, Y., Chen, Q., and Liu, J. (2022). Timing and outcomes of pediatric esophageal foreign body removal: A five-year review. *World Journal of Clinical Cases*, 10(15), 4776–4784.