



Beyond the Bite – A Large, Severely Impacted Denture in the Oropharynx

Nitin Gupta¹, Suramya Dhamija^{*2}, Prachi Barak² and Surinder K Singhal³

¹Professor and HOD, Department of ENT, Head and Neck Surgery, Government College and Hospital, Chandigarh, India

²Senior Resident, Department of ENT, Head and Neck Surgery, Government College and Hospital, Chandigarh, India

³Professor, Department of ENT, Head and Neck Surgery, Government College and Hospital, Chandigarh, India

***Corresponding Author:** Suramya Dhamija, Senior Resident, Department of ENT, Head and Neck Surgery, Government College and Hospital, Chandigarh, India.

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Abstract

Introduction: Denture impaction in the oropharynx is an uncommon, but clinically significant foreign body presentation that constitutes an otolaryngological emergency. Diagnosis may be delayed due to the radiolucent nature of acrylic prosthesis and variable clinical presentations, increasing the risk of airway compromise, mucosal injury and deep neck space infections. Early recognition and prompt endoscopic retrieval are crucial for preventing morbidity and mortality.

Case Presentation: A 47-year-old male presented with a history of accidental ingestion of a denture while eating dinner under alcohol intoxication. The patient reported a foreign body sensation in the throat associated with pain, drooling of saliva, and oral bleeding, with no respiratory distress or change in voice. Clinical examination revealed a large denture lodged in the oropharynx, with its metallic sidewires embedded in the oropharyngeal mucosa. Soft tissue neck radiographs demonstrated a radiolucent denture at the level of the epiglottis and hyoid bone, with radiopaque metallic sidewires embedded in the pharyngeal mucosa. Under general anesthesia, video-laryngoscopic assessment and endotracheal intubation were performed. The severely impacted denture was successfully extracted, using digital manipulation following multiple unsuccessful attempts with various forceps. A check laryngoscopy confirmed mucosal tears, which were managed conservatively. The patient received nasogastric (Ryle's) tube feeding for five days alongside intravenous antibiotics and was discharged in a stable condition after ten days of hospitalization.

Conclusion: This case highlights the importance of detailed history taking, thorough clinical and radiological evaluation, prompt airway control and timely foreign body removal under general anesthesia to prevent untoward life-threatening outcomes.

Keywords: Impacted Foreign Body; Oropharynx; Denture; Abscess; Deep Neck Space Infections

Introduction

Removal of ingested foreign bodies is one of the most common acute challenges encountered by otorhinolaryngologists. Foreign body ingestion is most frequently observed in pediatric populations aged six months to four years due to their inclination to explore objects orally [1]. In adults, foreign body ingestion or

aspiration occurs less frequently but presents unique diagnostic and therapeutic challenges. Commonly ingested foreign bodies by adults include teeth, dentures, chicken bones, fish bones, needles, and toothpicks. Adult cases typically occur accidentally during meals – often compounded by alcohol intoxication, neurological deficits (e.g. stroke, dementia, epilepsy), or hasty eating – and occasionally as deliberate self harm [2].

When a comprehensive history or visual assessment is incomplete, upper aero-digestive tract foreign bodies can mimic benign ENT complaints, delaying correct diagnosis. Accurate documentation of the mode and timing of ingestion, paired with immediate evaluation for impending respiratory compromise, is critical to preventing severe infectious and vascular complications.

Case Report

A 47-year-old male presented to the ENT emergency department with a history of accidental dental ingestion while eating dinner under alcohol intoxication. He complained of a persistent foreign body sensation in his throat, odynophagia, drooling of saliva and fresh oral bleeding of approximately 20 mL. There was no reported history of hoarseness, dyspnea, vomiting, choking episodes, or chest pain. He had no medical comorbidities or chronic substance dependencies.

Prior to presenting at our tertiary center, the patient sought care from a local practitioner who attempted removal in an outpatient department (OPD) setting without local/general anesthesia or without any radiological investigation. The practitioner utilized a tongue depressor and forceps to perform repeated extraction attempts. These attempts were unsuccessful and resulted in aggravated throat pain and active oral bleeding.

Upon examination at our emergency department, a large removable acrylic denture base with artificial teeth was observed lodged in the oropharynx. Its metallic sidewires were deeply embedded into the bilateral tonsillar fossae, accompanied by fresh blood oozing. Associated blood clots were carefully suctioned.

Anteroposterior and lateral soft tissue neck X-rays were obtained immediately, revealing a radiolucent foreign body silhouette at the level of the epiglottis and hyoid bone, with prominent radiopaque metallic sidewires extending laterally into the surrounding mucosal walls [Figure 1].

The patient was transferred directly to the operating room for foreign body retrieval under general anesthesia. Following anesthetic induction and neuromuscular blockade, video laryngoscopy of the patient was performed using the C-MAC system. The epiglottis appeared markedly edematous and congested. The acrylic denture plate rested against the posterior pharyngeal wall,

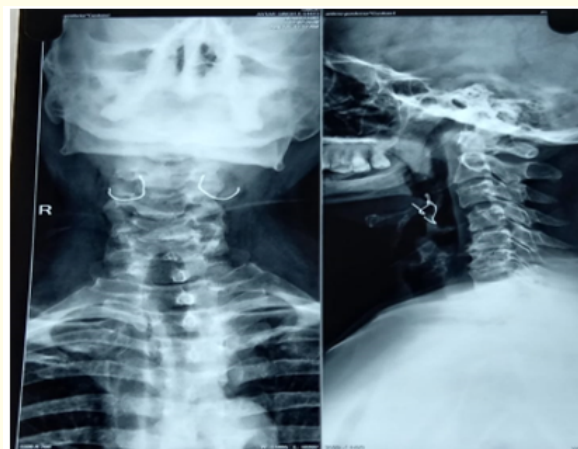


Figure 1: Soft tissue neck radiograph (AP and Lateral views) demonstrating radiopaque metallic sidewires embedded at the level of the hyoid bone and epiglottis.

while its metallic side wires were impacted into bilateral tonsillar beds. Elevating the epiglottis brought the artificial teeth into view within the postcricoid region abutting the bilateral arytenoids. The true vocal cords were bilaterally mobile and visually intact. Airway isolation was secured by intubating the patient with a 6.0 mm cuffed endotracheal tube under direct visual guidance [Figure 2].

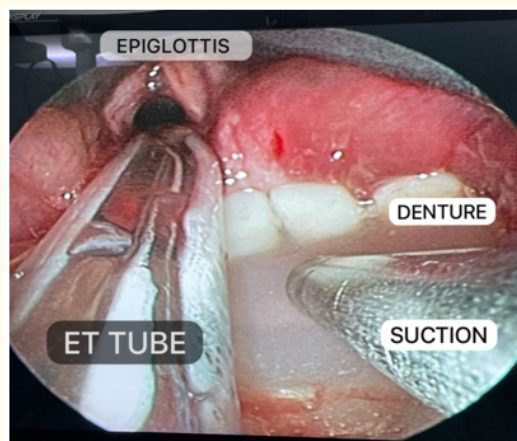


Figure 2: Video-laryngoscopic view showing the endotracheal tube in place, edematous epiglottis, suction tip, and impacted denture base.

Initial attempts to dislodge the metallic sidewires using direct Macintosh laryngoscopy, and surgical instruments- including

Magill forceps, Mathieu foreign body removal forceps, cup forceps, Negus artery forceps, Luc's forceps and Kocher's forceps – were unsuccessful due to severe mucosal impaction. During these attempts, the jaw mechanism of the Mathieu forceps broke under tension; all broken instrument fragments were immediately accounted for and extracted under direct visualization without any patient injury.

Dislodgement was ultimately achieved via controlled digital manipulation by the primary surgeon, freeing the metallic clasps from the tonsillar pillars. The extracted prosthesis measured 5.5 cm × 5.0 cm, consisting of a full acrylic dental base with teeth and rigid wire clasps [Figure 3].



Figure 3: Extracted denture prosthesis measuring 5.5 cm × 5.0 cm with sharp metallic clasps.

A thorough post-retrieval check laryngoscopy revealed mucosal tears along the right posterior pharyngeal wall and the right tonsillar fossa with mild active oozing [Figure 4]. Hemostasis was achieved with localized compression and topical suction. To prevent esophageal contamination and allow mucosal healing, a nasogastric (Ryle's) tube was placed prior to extubation.

Because pharyngeal mucosal disruption carries a high risk of deep neck space infection (e.g., retropharyngeal or parapharyngeal abscess) and cervical necrotizing fasciitis, strict enteric rest was maintained. The patient was managed with intravenous broad-spectrum antibiotics, analgesics, and antiseptic mouthwashes.

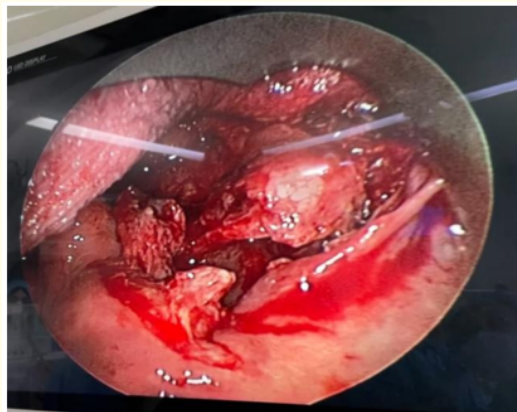


Figure 4: Post-retrieval endoscopic view showing mucosal tears along the right tonsillar bed and posterior pharyngeal wall.

Enteral feeding via the nasogastric tube was maintained for five days, after which oral fluids were introduced and gradually advanced to a normal soft diet. Repeat inspection demonstrated complete mucosal re-epithelialization, and the patient was discharged in stable condition on post-operative day ten.

Discussion

Foreign body ingestion accounts for approximately 4% of all the emergency endoscopies performed [3]. While pediatric presentations typically involve smooth items, such as coins, buttons, plastic buttons, batteries, toys etc., adult foreign body impactions frequently involve, food boluses, animal bones, fish bones and dental prostheses. Alcohol intoxication, as also seen in this case, significantly blunts protective airway reflexes and impairs coordination during deglutition, thereby increasing the likelihood of accidental ingestion [4].

Dentures present distinct diagnostic hurdles because standard polymethyl methacrylate (PMMA) acrylic resin is radiolucent. Unless the prosthesis contains radiopaque filler materials or metallic wire clasps, plain radiographs may fail to identify the main body of the foreign object [5,6]. A high index of clinical suspicion and careful physical examination are critical. Patients may present with subtle symptoms such as localized discomfort or odynophagia, even in the presence of extensive pharyngeal impaction [7].

Unsuccessful extraction attempts in non-controlled settings carry substantial risk. In this patient, preliminary blind manipulations using forceps in an outpatient setting likely driven the metallic clasps deeper into the tonsillar pillars, producing mucosal lacerations and active bleeding. Blind or unanesthetized removal attempts should be avoided; suspected impacted aerodigestive foreign bodies warrant immediate referral to specialized otolaryngology facilities [8].

Securing the airway is the primary clinical priority. A large foreign body in the oropharynx or hypopharynx can cause sudden catastrophic airway obstruction or complicate emergency intubation. Induction and intubation should be conducted in an operating suite equipped for emergency surgical airway management [9]. Video-laryngoscopy (e.g., C-MAC) facilitates superior visualization, allowing controlled tube placement around the impacted object without dislodging it further into the larynx [10].

Endoscopic or direct visual retrieval under general anesthesia represents the standard of care. When metallic clasps are embedded into vascular soft tissues, heavy instrument traction may worsen tearing. In this case, tactile feedback via digital manipulation enabled controlled dislodgement with minimal additional trauma. Conservative postoperative management—consisting of enteral tube feeding, broad-spectrum antimicrobial coverage, and serial mucosal assessments—prevented deep neck infection and allowed complete recovery [11,12].

Conclusion

Severely impacted oropharyngeal dentures represent challenging otolaryngological emergencies. The absence of acute airway distress does not rule out serious impaction or potential late complications. Successful management relies on rapid clinical recognition, avoiding unanesthetized manipulation, securing the airway in a controlled operating suite, and performing gentle visual or digital extraction under general anesthesia. Post-extraction care focused on mucosal healing and close monitoring prevents life-threatening deep neck space infections.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying clinical images.

Conflict of Interest

The authors declare that they have no competing interests.

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