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CASE REPORT

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IMPACTED DENTURE IN ESOPHAGUS NECESSITATING CERVICAL ESOPHAGOTOMY: A CASE REPORT

Authors: Deepa Singh (1), Saloni Singh (2), Dharmendra Kumar (3), Akhil Pratap Singh (4), Gaurav Singh (1)
Authors Affiliations: (1) Junior Resident, (2) Assistant Professor (3) Professor and Head, (4) Associate Professor, Department of ENT, Sarojini Naidu Medical College, Agra, UP, India.

ABSTRACT

INTRODUCTION

When a foreign body is ingested, whether voluntarily or accidentally, it usually passes through the digestive system on its own in 80% of cases. In rest of the cases when it gets impacted in gastrointestinal tract, the removal of foreign bodies becomes an emergency because of the risks of perforation, necrosis, retropharyngeal abscess, mediastinitis, and fistula formation.

REVIEW OF LITERATURE

Ingestion of foreign bodies is linked to 1500 annual deaths in the United States alone. A broken or partial impacted dentures make up 11.5% of oesophageal foreign bodies. The patients may present with dysphagia (92%) and tenderness of neck (60%), throat fullness, regurgitation of undigested food particles.

Case Presented: We present a unique case of denture impaction in oesophagus wherein esophagoscopy had to be aborted in view of unsuccessful removal and cervical esophagotomy was done to retrieve the impacted denture and prevent complications.

CONCLUSION

The foreign bodies are never to be taken for granted and should be intervened as soon as possible. The safest and most successful technique for retrieving foreign bodies is esophagoscopy. Cervical oesophagotomy is a safe and effective method of removal of those foreign bodies in oesophagus that are amenable to endoscopic removal

KEYWORDS

Cervical esophagotomy, Denture, Dysphagia, Esophagus, Foreign body

INTRODUCTION

Deliberate or accidental ingestion of foreign body is a common condition which passes through digestive tract on its own in 80% of the cases (1). In 10-20% of the cases, the foreign body gets impacted at some site of the digestive tract and cause difficulties to the patient (2). Ingestion of foreign bodies is linked to 1500 annual deaths in the United States alone (3). Clinical presentation of foreign body ingestion may vary, depending upon the size, site and duration of impaction (4).

The hazards of perforation, necrosis, retropharyngeal abscess, mediastinitis, and fistula formation make the extraction of foreign bodies an emergency (5). A broken or partial impacted dentures make up 11.5% of oesophageal foreign bodies (6). Esophagoscopy has emerged as the safest and most effective method of foreign body retrieval (7). Nevertheless, dentures can occasionally become embedded in the oesophageal walls, making removal challenging due to anticipated

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perforations. In such instances which accounts for less than 1% of the cases, open surgery is indicated (5).

AIM AND OBJECTIVES

We present a unique case of denture impaction in oesophagus wherein esophagoscopy had to be aborted and cervical esophagotomy was done to retrieve the impacted denture and prevent complications (5). This case also demonstrates that the mode of impaction and shape of foreign body also effects the feasibility of its removal.

MATERIAL AND METHODS

A 69 years old man presented to emergency department of a tertiary care teaching hospital with complaints of persistent dysphagia ever since he accidentally swallowed his artificial denture while having food 7 days earlier. He denied any respiratory difficulty and was looking pale and cachexic on examination. Plain radiograph of neck could not suffice in the diagnosis hence contrast enhanced computed tomography of neck was advised. CECT revealed metallic density foreign body in the cervical and upper thoracic oesophagus at the level of C7 and D1 vertebra measuring approximately 20*80.7*5.7 mm. It was seen insinuating in the posterior wall of oesophagus and causing irregular wall thickening of oesophagus. The emergency ENT team was called and patient was intubated. Esophagoscopy confirmed the presence of a denture impaction in the oesophagus along with sufficient amount of inflammation around it, causing narrowing of the lumen. Since the foreign body was firmly lodged in the oesophagus walls, removal by esophagoscopy under general anaesthesia was unsuccessful.

A quick decision was taken to convert to open approach cervical esophagotomy. Based on the location of the denture impaction in the upper oesophagus, a 6 cm oblong incision on left side of patient's neck was performed along the leading edge of sternocleidomastoid muscle. Sternocleidomastoid muscle, omohyoid muscle and pre-tracheal muscles were retracted laterally and medially respectively to expose the carotid sheath. Middle thyroid vein was ligated. The posterolateral aspect of oesophagus was identified and foreign body was palpated. Inflammation was noted in the region of foreign body impaction. A 3 cm longitudinal incision was given over cervical oesophagus to facilitate the removal of 3.0*2.0 cm artificial denture. The edges of the incision were closed by primary repair. Negative pressure suction drain was placed in the neck and Ryle's tube was inserted. Further post operative period was uneventful and the patient was discharged with satisfactory condition.

RESULTS AND OBSERVATIONS

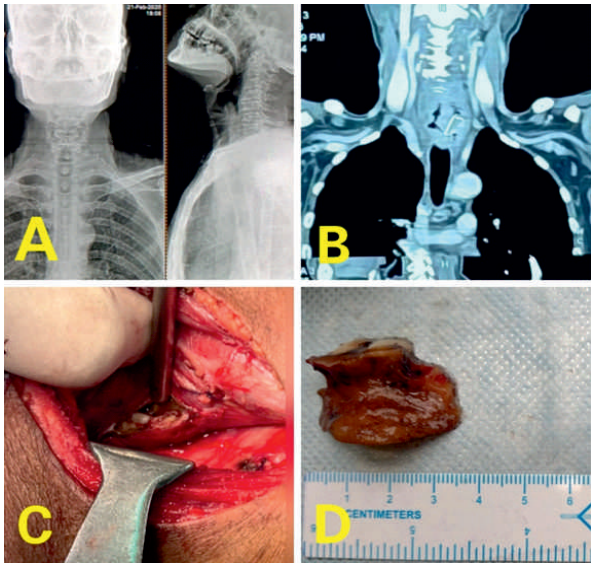

Figure A: X-ray Neck anteroposterior and lateral view, B: CECT Neck showing foreign body oesophagus at level of C7-D1 vertebra, C: Denture visualised via lateral cervical esophagotomy approach, D: Artificial denture after removal from the oesophagus.

DISCUSSION

The foreign bodies in oesophagus are more likely to stuck in narrow areas corresponding to oesophageal constrictions. If left unremoved,

they can cause serious complications and even death. The longer duration of foreign body impaction is associated with higher risks of complications. Although paediatric population is most affected, elderly people are not spared too due to decreased neuromotor reflexes and widespread use of artificial prosthesis in form of denture (8). The patients may present with dysphagia (92%) and tenderness of neck (60%). Other symptoms include inability to swallow saliva, throat fullness, regurgitation of undigested food particles. Significant weight loss can accompany in case of longer duration of impacted foreign body. Stridor and dyspnoea are rare but can occur in cases of tracheal compression (9).

Foreign bodies impacted in cervical oesophagus carry higher risk of complication due to proximity of vitals organ around it (8). CT scan is a useful modality for diagnosis of foreign bodies oesophagus and estimating the accurate site of impaction (10). It also helps in identifying impending and occurred complications. The localised inflammation of oesophageal mucosa causes oedema which might render the visualisation of all the margins of foreign body. In such cases, blind pull of the foreign body can cause oesophageal perforation and can injure aorta too (11).

The oesophagus in its descent has slightly left curvature at the cervical level so it is conventionally approached through left cervicotomy (8). Cervical oesophagotomy is a safe and effective method of removal of those foreign bodies in oesophagus that are amenable to endoscopic removal (12). However, it requires surgical expertise and thorough knowledge of neck anatomy. Our experience in this case shows that prompt decision making and timely intervention can prevent complications and lead to uneventful recovery even in difficult cases of foreign body impaction.

CONCLUSION

The foreign bodies are never to be taken for granted and should be intervened as soon as possible. The acute as well chronic complications of foreign body can cause long term morbidity and even mortality in several conditions. Foreign body oesophagus is often missed which later on presents in a complicated stage. Our experience on this case reveals that not only the duration of foreign body impaction, but the shape, size of foreign body with its location plays a pivotal role in its extraction. The prompt decision making is always required in dealing such cases where endoscopic removal of foreign body is not feasible.

DECLARATION

Ethics approval and consent to participate: No ethical approval required.

Author's contribution: All the authors have contributed to the study conception and design.

Competing interests: The authors declare that they have no competing interests.

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***Corresponding author**

Dr Deepa Singh

Junior Resident

Sarojini Naidu Medical College, Agra

E-mail: deepannd23@gmail.com

Phone No: 8840881993

ORCID Id: 0009-0002-7114-7491

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