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Case Report

Challenges of Management of Long-Standing Impacted Foreign Body in The Oesophagus: A Case Report

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Abstract

Background

Oesophageal foreign bodies are the commonest cause of acute foreign body impaction within the GIT. Major complication of which may cause potential risk of morbidity and mortality. This is a case of a longstanding impacted foreign body in the oesophagus.

Case presentation

A 63-year-old female retired teacher, with a history of progressive dysphagia of one-year duration, odynophagia, choking and cough while feeding. There was no foreign body sensation in the throat, change in voice, or difficulty breathing. The patient had missing denture in an attempt to swallow a medicine two-years prior to above symptoms, with an initial negative x-ray finding. On examination at presentation, she was wasted, but stable, with no neck swelling, tenderness or stiffness. She had barium swallow that revealed a foreign body in the oesophagus with an area of narrowing; CT Scan further showed a stricture communication between the trachea and oesophagus at the level of the T3 vertebral body. A diagnosis of foreign body impaction in the oesophagus complicated by long segment oesophageal stricture and trachea-oesophageal fistula was made. She had feeding gastrostomy and nutritional rehabilitation, subsequently reviewed by cardiothoracic surgeons in affiliated tertiary centre, where she had oesophagectomy and colonic interposition. The patient is two years post oesophageal replacement and doing well.

Conclusion

The longstanding impacted oesophageal foreign body in this patient was associated with; oesophageal stricture, tracheoesophageal fistula, malnutrition, multiple surgeries including, multiple blood transfusions and high cost of treatment, which could have been avoided with early presentation.

Keywords: Case Report; Impacted Foreign Body in Oesophagus; Management Challenges

Introduction

Oesophageal foreign bodies are the commonest cause of acute foreign body impaction within the Gastrointestinal Tract (GIT). Major complications can occur with risk of serious morbidity and even mortality. The recognition and management of occult oesophageal foreign bodies can be difficult. Impaction tends to occur at natural constrictions, the upper oesophageal sphincter (cricopharyngeus), aortic arch, left main bronchus and lower oesophageal sphincter [1]. The upper sphincter is the narrowest and is the most common site of Foreign Body (FB) impaction [2]. Denture ingestion has a high misdiagnosis rate of 47% [3]. We present here a case of a neglected and complicated foreign body in the oesophagus that was managed successfully.

Case Report

A 63year old female retired teacher, known diabetic was seen with a history of progressive dysphagia of one-year duration, odynophagia, choking and cough while feeding. There was no foreign body sensation in the throat, change in voice, or difficulty breathing. The patient had missing denture in an attempt to swallow a medicine two-years prior to above symptoms. She had an initial dysphagia, odynophagia following the missing denture and immediately presented to a clinic in her village (the qualification of the attended clinician was not known), where she had an X-ray done, and was told that no foreign body was seen, she was given antibiotic, analgesics. Initial symptoms subsided, but two-years later she developed a progressive dysphagia with associated chocking and cough while feeding. She was later seen in a tertiary hospital where another X-ray was done which revealed a foreign body in the oesophagus then referred to our facility.

On examination at presentation, the patient was wasted, not in any distress, with stable vital signs. No neck swelling, tenderness or stiffness with a negative pointing sign. She had investigations including barium swallow with cotton wool pledged was requested to identify the presence and position of a radiolucent foreign body which showed dilatation of the cervical oesophagus and a persistent filling defect with a conclusion of foreign body impaction at thoracic oesophagus; CT Scan further showed communication between the posterior wall of the trachea and the anterior part of the oesophagus at the level of T3 vertebral body measuring 3mm, with a concentric asymmetric thickening of the wall of the oesophagus and obliteration of the lumen at aortic region. Chest X-ray revealed bronchopneumonia. Packed cell volume was 22% at presentation.

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Diagnosis of foreign body impaction in the thoracic oesophagus complicated by a long segment stricture, trachea-oesophageal fistula, anaemia, malnutrition and derangement was made. The patient had antibiotics, blood transfusion, with subsequent feeding gastrostomy and nutritional rehabilitation in our facility. She was reviewed by the cardiothoracic surgeons in affiliated hospital, where she had a two-staged procedure: First was thoracotomy, oesophagectomy, cervical oesophagostomy and repair of trachea-oesophageal fistula with intra-operative findings of impacted single-tooth denture with flanges in the proximal thoracic oesophagus at the level of T4 vertebra, a tooth perforating into the distal trachea just proximal to the carina, a 1cm perforation on the membranous trachea and oesophagus and a morbidly adhered distal oesophagus. 2months later she had oesophageal replacement with colonic conduit, with multiple blood transfusions intraoperatively. Following complete recovery, the gastrostomy tube was removed. Barium swallow done at 4weeks post-op revealed a good oesophagus. One year following oesophageal replacement, she developed partial intestinal obstruction due to post-operative adhesion that was successfully managed conservatively. She is currently two years post treatment, feeding orally with overall good clinical status.

Discussion

Foreign body impaction in the oesophagus is common in both adults and children and when long-standing can be associated with significant morbidity and mortality. Common objects ingested vary with age, while coins and toys are seen in children; meat and dentures are more common in the elderly. With an increase in the denture-wearing population, there is an increase in the incidence of impacted dentures [4]. Denture when not fitting is a common risk for ingestion or aspiration. The presentation may be immediate when causing sudden dysphagia, or odynophagia but may be unrecognised or neglected in asymptomatic patients. As the time of retention of the foreign body increases, symptoms become obscured, making diagnosis more difficult and usually only detected incidentally or when complications have occurred [5]. A few sharp foreign bodies can migrate extraluminally if ignored and can cause devastating complications such as trachea-oesophageal fistula, abscesses, major vessel injuries, mediastinitis and aorto-oesophageal fistula [6,7].

The index patient was a 63-year-old who swallowed a single-tooth denture, with initial mild symptoms but developed progressive dysphagia 2-years later with no foreign body sensation. The patient has diabetes and was poorly controlled which probably led to her delay in presentation, as complication of neuropathy may led to absence of sensation in this patient that gave her a though that the denture was swallowed she was prompted to seek attention following the onset of dysphagia. The presentation was prompted by the denture that triggered chronic inflammation leading to fibrosis and stenosis of the oesophagus and the sharp tooth edge that migrated and caused trachea-oesophageal fistula causing recurrent choking and cough when feeding. While complications are common with long-standing sharp foreign bodies, Mohajeri et al. [8]. In Iran reported no complication after 9 months of a denture in the oesophagus. Investigations for a long-standing foreign body in the oesophagus will focus on establishing the presence of the foreign body and ruling out complications. X-ray of soft tissue of the neck, chest X-ray, barium swallow and CT Scan of chest, were requested in our patient because complications were suspected. The patient was optimized nutritionally before the definitive treatment by doing feeding gastrostomy and nutritional rehabilitation because she was malnourished and not feeding adequately. Packed cell volume was 22% at presentation and she was transfused, blood glucose was controlled on insulin perioperatively and electrolyte derangement was corrected. Management of swallowed dentures involves a multidisciplinary team approach depending on the location and severity of the problem, this was similar to our report in which otorhinolaryngologist, cardiothoracic surgeons, physician and nutritionist where all involved in her management.[3] Approaches include observation, oesophagoscopy and FB removal or open surgery. Okugbo et al. and Orji et al. support the use of an oesophagoscope as the main approach for oesophageal dentures and go for open surgery if need be [3,9]. Dalvi et al. describe the technique of splitting the denture plate and removing it in pieces, however problems can be encountered with this method when the plate is too hard to cut through [10]. Kuo et al. highlight the risk of complications such as airway obstruction, laryngeal spasms and oedema as a result of multiple attempts at removing the foreign body [11]. The use of oesophagoscope to remove denture carries. a significant risk of perforation due to the attached wiring and the irregular shape of the foreign body. This risk is further increased if the denture was swallowed long time ago and there is surrounding inflammation at the site of impaction [12]. It has been suggested that operative extraction of ingested dentures is the safest management, in particular, an open oesophagotomy [13]. Other operative approaches described in the literature are cervical oesophagotomy, thoracotomy and thoracoscopic removal, oesophagectomy and replacement [12]. Due to the long-standing nature of the foreign body, site and associated complications in our patient, oesophagectomy and oesophageal replacement was utilised.

Conclusion

Longstanding foreign body in the oesophagus has high risk of serious morbidity, therefore early presentation and prompt treatment is very important in preventing complications. The morbidities encountered in this index case included; oesophageal stricture, tracheoesophageal fistula, malnutrition, multiple surgeries including, multiple blood transfusions and high cost of treatment, which could have been avoided with early presentation.

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