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Oesophageal denture impaction producing Horner's syndrome: a case report

O V Akinpelu, Y B Amusa, J A E Eziyi, A A Haastrup, S A Ameye

Abstract

Background: Dentures in the oesophagus have been associated with various complications; however, Horner's syndrome following denture impaction has not been reported in our locality.

Case report: Horner's syndrome developed in a 26-year-old woman following accidental swallowing of an upper denture which then became impacted in the oesophagus. The denture was retrieved via cervical oesophagotomy. The syndrome abated completely by the seventh day post-surgery. The clinical features of Horner's syndrome are discussed.

Conclusion: Compression of the stellate ganglion, with resultant Horner's syndrome, can be associated with denture impaction in the cervical oesophagus.

Key words: Horner's Syndrome; Sympathetic Nerves; Denture; Foreign Body; Oesophagus

Introduction

Foreign bodies in the oesophagus are a fairly common problem in children. Common oesophageal foreign bodies in adults include bones, pins, dentures and kola nuts,[1,2] whereas toys and coins are common in children.[3] Accidental swallowing of dentures is becoming a problem in Africa, as more people are now wearing dentures.[4]

Denture impaction in the oesophagus constitutes an emergency. The patient often presents after the impaction, and it is rare for them not to be aware of the incident. However, this may occur if the patient accidentally swallowed their denture while in a drunken state. The usual complaints following denture impaction are dysphagia, odynophagia and drooling of saliva; in long-standing cases, there may be associated symptoms of undernutrition.

This is a report of a case of compression of the cervical sympathetic chain and the stellate ganglion in a patient with impacted oesophageal denture.

Case report

A 26-year-old woman accidentally swallowed her upper denture while swallowing her medications. She then presented with dysphagia to her doctor, who ordered X-rays of the neck and chest. The radiographs were reported to be normal.

Two months later, the patient was referred to our unit with persistent dysphagia.

At presentation, the patient complained of odynophagia and dysphagia to solid foods. There was no swelling in the neck. However, the patient had noticed drooping of the left upper eyelid.

The patient was afebrile and not dehydrated. The left eye showed ptosis, miosis and enophthalmos (Figure 1). Visual acuity was normal. Anhydrosis was also present. Oropharyngeal examination showed pooling of saliva. There were no abnormalities in the ears and nose. There were also no features to suggest oesophageal perforation. The cardiovascular and respiratory systems were essentially normal.

Repeat soft tissue X-rays of the neck showed a widened prevertebral space and trapping of air in the oesophagus at the C6/C7 level.

A diagnosis of denture impaction with associated left-sided Horner's syndrome was made, and the patient was fully investigated for this. Fibre-optic endoscopy located the denture (Figure 2); removal was attempted during the endoscopy but was not possible. Rigid endoscopy was also attempted but this also failed to remove the denture, as it was deeply embedded in the oesophageal tissues, with extensive surrounding granulation tissue. The denture was eventually retrieved via an external approach (cervical oesophagotomy).

The post-operative period was uneventful. From the fifth post-operative day, the patient's ptosis and anhydrosis were noted to be abating. By the seventh post-operative day, there was complete resolution, and the patient was discharged (Figure 3).

From the Department of Surgery, Obafemi Awolowo University/Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria.

FIG. 1
Patient at presentation. (Published with patient's permission.)

Discussion

A foreign body in the oesophagus is a fairly common problem. Okafor, working in eastern Nigeria, observed that impacted foreign bodies constituted the most common otolaryngological emergency in that region.[5] Impacted dentures appear to constitute a significant proportion of impacted oesophageal foreign bodies. Authors in Malaysia found 11.5 per cent of oesophageal foreign bodies to be of dental origin.[6] Radiological identification of impacted dentures is often difficult, because most dental prostheses are made of radiolucent materials.[4,7,8]

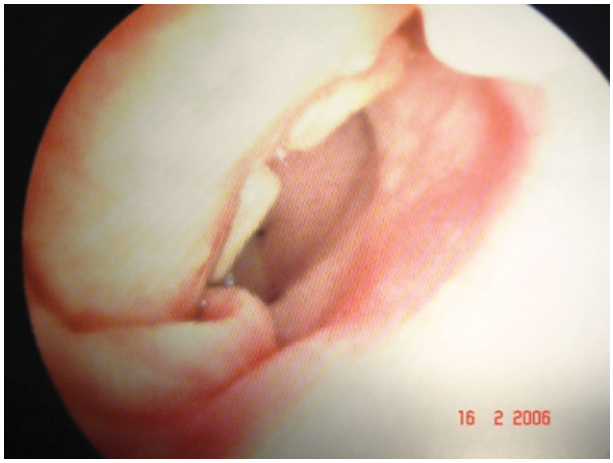

FIG. 2
Endoscopic findings.

FIG. 3
The patient, six days post-operatively. (Published with patient's permission.)

There are potential dangers associated with retained foreign bodies in the oesophagus, especially dentures, which possess sharp edges.[2] Injuries to the surrounding structures in the neck can complicate impacted oesophageal foreign bodies. Such injuries include late onset, benign tracheoesophageal fistula.[7] In Lucknow, India, Ravi Shankar *et al.* reported five cases of retained oesophageal foreign bodies, with one of their patients presenting with massive haematemesis due to caroticocavernous fistula.[9] Haematemesis was also reported as a presenting complaint in children who had undergone failed removal attempts at regional clinics.[10] Recurrent laryngeal nerve paralysis has been associated with a missing denture, and a case of denture impaction mimicking an oesophageal tumour has also been reported.[11,12]

There is an increased risk of accidental swallowing of dentures in elderly patients and in those with psychiatric disturbances, stroke or alcoholism.[8,13–15] Strictures and spasms of the distal oesophagus have been proposed as aetiological factors in the retention of oesophageal foreign bodies.[16]

According to our review of the English literature, there has been no previous report of Horner's syndrome as a presenting feature of retained oesophageal foreign body.

Horner's syndrome (also known as Claude Bernard–Horner's syndrome and also, incorrectly, as Hare's syndrome) refers to a group of signs comprising enophthalmos, ptosis, miosis, anhydrosis and heterochromia. These signs are produced by paralysis of the cervical sympathetics of peripheral or central origin.[17,18] As a general rule, the syndrome is unilateral; it is therefore easier to detect and of localising value.[19]

The stellate ganglion, also known as the cervicothoracic ganglion, is the inferior cervical ganglion of the sympathetic chain which supplies the eye. It can be compressed or damaged where it lies anterior

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to the transverse process of the seventh cervical vertebra and the neck of the first rib.[20]

Various factors have been documented to be responsible for this syndrome. These include trauma (including iatrogenic injury from radical neck dissection), thyroidectomy, carotid angiography and coronary artery bypass graft.[21,22] Horner's syndrome has been reported following chest tube insertion and also after birth injury to the lower brachial plexus.[23,24] Other causes of neck trauma reported with Horner's syndrome include traumatic dislocation of the cervical vertebrae, traumatic dissection of the vertebral artery,[25] blunt trauma to the neck in a five-year-old child,[26] and penetrating trauma at the cervicomedullary junction.[27] Recently, temporary Horner's syndrome following tonsillectomy was reported.[28]

Removal of dentures from the oesophagus can sometimes be achieved via oesophagoscopy.[13] However, this often fails when the denture is deeply impacted in the oesophageal tissues, as in the case presented. Hence, an external approach was performed for our patient, as in other, similar cases reported.[15] The complete resolution of our patient's palsy following surgery demonstrated that the denture had been compressing the stellate ganglion.

Conclusion

Oesophageal denture impaction can cause damage to the surrounding tissues, including neurovascular structures, as shown in this case.

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Address for correspondence:
Dr O V Akinpelu,
ENT Unit,
Department of Surgery,
Obafemi Awolowo University,
Ile-Ife, Nigeria.

E-mail: olubunmilola@yahoo.co.uk

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