CASE REPORT

Metal impaction: an unusual cause of dysphagia

C Anwuzia-Iwegbu, Y Quereshi, R Walker, B Patel

Department of Upper GI
Surgery, Barts & The Royal
London, London, UK

Correspondence to

Dr C Anwuzia-Iwegbu,
c.anwuzia-iwegbu@uea.ac.uk

SUMMARY

A 41-year-old unemployed construction worker with a background of insulin-dependent diabetes mellitus, hypertension, chronic kidney disease stage 3, previous incisor tooth abscess aged 9, for which he was fitted with metal dentures, underwent a right below knee amputation. Postoperative day 8 he experienced episodes of dysphagia and vomiting postparandial. CT thorax revealed a foreign body in the midline region of the mediastinum. After two failed attempts at endoscopic extraction of the metal denture, the patient underwent surgical extraction of his metal denture.

BACKGROUND

An unusual presentation of dysphagia.

CASE PRESENTATION

A 41-year-old unemployed construction worker with a background of insulin-dependent diabetes mellitus, hypertension, chronic kidney disease stage 3, previous incisor tooth abscess aged 9, for which he was fitted with metal dentures, underwent a right below knee amputation. There were nil complications during the procedure.

Day 4 postoperative he started physical rehabilitation with physiotherapist and reported adequate pain control. He reported feeling fatigued and slept more comfortably in the supine position. His postoperative blood tests were: haemoglobin 9.8, white blood cell count 5.3, platelets 550, international normalised ratio 1.2, sodium 135, potassium 4.8, chlorine 102, urea 5.3, creatine 172, C reactive protein 35.

Day 6 postoperation he was unable to recall the location of his metal denture; however, he was able to tolerate oral intake. Day 8 postoperation the patient experienced episodes of dysphagia and

vomiting postparandial. There were nil reports on the episodes of haematemesis or respiratory distress with a patient at risk (PAR) score of 0. The patient was able to tolerate sips of water/lucozade so continued this regime in the hope of his dysphagia settling. Owing to ongoing dysphagia and vomiting, chest and abdominal plain film were performed on day 9 postoperation. The results were unremarkable. Day 15 postoperation, the patient's dysphagia and postparandial vomiting continued. His general and systemic examination remained unremarkable and a chest plain film was repeated which highlighted the silhouette of a foreign body within the midline of the mediastinum (T2-T4; figure 1). CT chest/abdomen scan was performed immediately afterwards, which clearly revealed a foreign body in the midline region of the mediastinum (figure 2).

The patient received intravenous fluids and had a gastroscopy under local anaesthesia which clearly identified an impacted metal foreign body at 25 cm from the teeth within the proximal oesophagus (figure 2). Unfortunately, attempts to extract his metallic dentures failed and the procedure was abandoned due to concerns that excessive force may result in oesophageal perforation. The patient remained clinically stable post procedure. Owing to concerns of impaction and fears of aspiration, he was transferred via blue light to a tertiary centre due to concerns of impaction of dentures and risk of aspiration. Clinical observations were stable with a PAR score of 0. He underwent a second attempt at endoscopic-guided extraction of his metallic dentures under general aesthetic. The foreign body was found to be embedded in the lateral wall of the mid-oesophagus at 26 cm with scope passing through easily. Despite perseverance, the foreign body was difficult to mobilise. Mobile fluoroscopy was performed to access the mobility of the foreign body (figure 3), which confirmed that the metal dentures were transversely impacted within the oesophagus (figure 3).

Figure 1 Chest X-ray which revealed a foreign body shadow in mediastinum region (T2–T4).

Figure 2 CT scan demonstrating a foreign body in the region of the mediastinum.

To cite: Anwuzia-Iwegbu C, Quereshi Y, Walker R, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-200000

Figure 3 Mobile fluoroscopy highlighting impacted denture.

TREATMENT

As a result, he underwent a right thoracotomy with collapse of the right lung and extraction of metal dentures was made following surgical incision (figure 4).

OUTCOME AND FOLLOW-UP

There were nil complications during the procedure. The patient recuperated in high dependency unit (HDU) for 7 days and underwent a water soluble contrast study on day 5 to assess for any incisional leak, which was unremarkable. He was later discharged with 4 weeks follow-up in surgical outpatients and local dental clinic.

DISCUSSION

Several case reports have been reported of accidentally swallowed dentures with exceptional clinical courses.¹ Early diagnosis and treatment has been suggested to avoid the oedematous reaction, mucosal infection and necrosis that heighten the risk of rigid oesophagoscopy.² Late complications of undiagnosed swallowed dentures include extraluminal migration from the oesophagus causing either a diverticulum or perforation.^{3 4}

Management of such cases varied from use of rigid oesophagectomy for an impacted denture which had eroded into a blood vessel.⁵ Contrastingly, laparotomy and gastrotomy were undertaken for a prosthesis which could not be retrieved with the aid of an oesophagoscope.⁵

Within our case, following two attempts via endoscope and the concern of the denture being impacted within the oesophagus, a controlled surgical removal was performed. Previous case report suggests that surgical extraction is safer compared with

Figure 4 Surgically removed metal denture.

endoscopic extraction due to reduced risk of oesophageal trauma.¹

Learning points

- ▶ Ingestion of any foreign body requires immediate referral to the upper gastrointestinal specialist.¹
- ▶ Early detection and intervention in such cases leads to a better prognosis.^{1–4}
- ▶ The patient should be advised on the wearing and care of their dentures—especially removing them before sleep.⁵

Contributors CA-I drafted the case report. YQ, RW and BP performed the surgical procedure and proof read case report.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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