CASE REPORT

Visual failure in the elderly and dysphagia

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SUMMARY

A 91-year-old man presented with a history of acute dysphagia. Clinical examination found reduced oxygen saturations and lung basal crepitations. Blood tests revealed mild anaemia, leukocytosis and acute renal failure. Chest X-ray demonstrated two oesophageal foreign bodies (FBs) and consolidation at the left lung base. Dysphagia resolved following the removal of two coins at oesophagogastroduodenoscopy, the man did not recall ingesting coins. His coin ingestion was attributed to poor visual acuity and he was referred for eye examination and advised to keep coins separate from food and medication. Children and the aged are likely to swallow FBs; causes of ingestion include reduced ability to chew and/or distinguish between objects. Most FBs pass spontaneously, however those that become stuck are likely to impact in the oesophagus. It is important to consider visual acuity for both compliance with medication and to prevent ingestion of FBs.

BACKGROUND

When assessing a patient's functional status, visual acuity is an important but often overlooked consideration. It influences ability to mobilise, follow written instructions and compliance with medication. It is also a risk factor for falls.

This case highlights the importance of visual acuity in unintentional ingestion of a foreign body (FB) and the importance of considering visual acuity when formulating differential diagnosis and management plans. It also provides an overview of FB ingestion alongside a case of oesophageal impaction.

CASE PRESENTATION

A 91-year-old man presented to the emergency department 4 days after Christmas when he slipped out of bed and activated his emergency pendant. He reported that he was in good health until Boxing day, when he first noticed he was unable to swallow toast at breakfast. While he had no difficulty swallowing fluids, he noticed solids getting stuck in his throat and he had to regurgitate them.

He denied odynophagia, chest or abdominal pain and dyspnoea. There was no history of weight

loss. He reported no change in bowel habits or urinary symptoms.

His medical history revealed two previous myocardial infarctions, left ventricular dysfunction and a long-standing normocytic anaemia. Our patient's medication history is given in table 1. On systemic enquiry, it was found that he used a full set of dentures, lived alone and was independent with a Zimmer Frame, his daughter assisted with shopping.

On examination, pulse was 66 bpm, blood pressure was 155/76 mm Hg, respiratory rate was 24 breaths/min and oxygen saturations were 94% (on room air). There was no palpable lymphadenopathy and examination of his throat was unremarkable. Systemic examination revealed normal heart sounds, bilateral basal chest crepitations and a soft, non-tender abdomen. A routine urine dipstick test was normal. Nursing staff reported that at night he struggled to reach objects and often knocked things over.

INVESTIGATIONS

Blood tests demonstrated a mild anaemia, haemoglobin 11.3 g/L (13–16 g/dL) and a raised white cell count at $15.7 \times 10^9/L$ (3.5–9.5) with neutrophilia $14.1 \times 10^9/L$ (1.7–6.5). Sodium 138 mmol/L (133–146), potassium 4.6 mmol/L (3.5–5.3), urea 11.0 mmol/L (2.5–7.8), creatine 197 $\mu\text{mol/L}$ (62–106). Previous blood tests revealed normal renal function. Liver function tests were normal (see chest X-ray in figure 1).

DIFFERENTIAL DIAGNOSIS

Initial differential diagnosis included:

- ▶ Lower respiratory tract infection/pneumonia with acute kidney injury;
- ▶ Dysphagia secondary to FB ingestion;
- ▶ Post-chest X-ray differential was ingested FB and left lower zone pneumonia.

TREATMENT

A more focused clinical history revealed that on Christmas Day the patient had consumed a Christmas pudding. He did not recall consuming coins and coins had not been added to the pudding. An abbreviated mental test was undertaken and this was normal, however he did admit to having poor

Table 1 Medication list

Allergy status	NKDA	Amlodipine	5 mg once daily
Aspirin	75 mg once daily	Atenolol	25 mg once daily
Ferrous fumarate	200 mg once daily	Folic acid	5 mg once daily
Furosemide	20 mg once daily	Ramipril	10 mg once daily
NKDA, no known drug allergies.			

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Figure 1 An anterior-posterior erect and lateral chest X-ray demonstrating two well-defined round foreign bodies in the region of the lower oesophagus/gastro-oesophageal junction and some consolidation in the left retrocardiac region (consistent with a left lower zone infection).

vision (both acuity and depth perception), which was exacerbated by reduced lighting.

An oesophagogastrroduodenoscopy the following day (figure 2) recovered 12 pence (1×10 pence piece and 1×2 pence piece) from the lower oesophagus (figure 2). Mild

oesophageal irritation and ulceration was visualised secondary to the FBs, however no stricture was present.

OUTCOME AND FOLLOW-UP

Dysphagia resolved following coin retrieval and coin ingestion was attributed to poor visual acuity. He was advised not to keep coins close to food or medication and referred for an eye examination. He received antibiotics for community acquired pneumonia and responded well. At outpatient follow-up he reported that new prescription glasses had dramatically improved his vision.

DISCUSSION

Accidental ingestion of FBs are common, because most pass spontaneously it is difficult to assess incidence.¹ Children (aged less than 10 years) are most likely to swallow FBs, with those under four at highest risk.^{2 3} Denture wearing elderly, psychiatric patients and alcoholics are also at increased risk.¹ A literature review demonstrates that coins²⁻⁵ and fishbones⁶⁻⁸ are the most common FBs ingested.

The main causes for FB ingestion include lack of molars resulting in reduced ability to chew food, lack of capacity to distinguish between objects (visual impairment), distraction,⁹ drug or alcohol misuse³ and use of chopsticks.⁸

Oesophageal FBs are twice as common as bronchial FBs⁹ and most are passed spontaneously. Some however impact in the aerodigestive tract.⁹ Oesophageal impaction is more common in children who have a smaller oesophagus diameter than adults.² Within the oesophagus FBs usually become lodged in areas of previous scarring/stricture¹⁰ or physiological narrowing¹⁰⁻¹² such as the cricopharyngeal muscle, and levels of compression from the aortic arch, left mainstem bronchus and diaphragmatic hiatus. Once FBs pass the cardia they are likely to be excreted spontaneously.⁵

Rodríguez *et al*⁹ report three clinical phases in the aspiration and ingestion of FBs detailed in table 2.

The main symptoms of impaction are dysphagia, odynophagia, vomiting and drooling.^{4 6 13 14} laryngeal rub may also be heard.⁸

It is widely recognised that early removal of FBs (not expected to pass spontaneously) alleviates symptoms and prevents latter complications such as ulceration, obstruction, perforation and, as in this case, dehydration.^{2 7 8} In infrequent cases FBs (specifically chicken bones and wire bristles) can migrate to the thyroid gland causing further complications.¹⁵

Figure 2 Endoscopic photograph of two pence piece lodged in oesophagus prior to removal.

Table 2 The three clinical phases in aspiration

Stage	Symptoms
First stage—impaction	Choking or coughing
Second stage—asymptomatic	Foreign body lodges and reflexes grow weary
Third Stage—complications	Obstruction, erosion or infection

While most FBs that impact in the oropharynx can be removed without laryngoscopy,⁸ many FBs, that cannot be directly visualised and do not progress spontaneously require endoscopic removal.⁵ There is debate relating to endoscopic technique, however flexible endoscopy is advocated as first line in most cases.^{16 17} Coin removal has also been reported with Magill's forceps¹⁸ and Foley's catheter.¹⁹

Visual impairment in the elderly is a risk factor of falls (and hip fracture), poor medication compliance and reduced quality of life yet in many cases it is correctable.²⁰ In older people it is important to measure visual acuity, contrast sensitivity and depth perception.²¹

A literature review has revealed only one similar case of a blind 85-year-old woman who accidentally ingested a nickel, a dime and a penny which impacted on an oesophageal stricture.³ There are no reported cases of FB ingestion due to Christmas pudding ingestion.

Learning points

- It is important to consider visual acuity in elderly patients for both compliance with medication and to prevent falls and ingestion of foreign bodies (FBs).
- Health education can reduce coin ingestion in both children and vulnerable adults such as the elderly. Visual screening may also reduce ingestion.
- In any patient with sudden onset of dysphagia, FB ingestion should be considered as a differential.

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critical revision and final approval. ND contributed in the conception, critical revision of the manuscripts final draft and gave final approval.

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REFERENCES

- Velitchkov NG, Grigorov GI, Losanoff JE, *et al.* Ingested foreign bodies of the gastrointestinal tract: retrospective analysis of 542 cases. *World J Surg* 1996;20:1001–5.
- McNeill MB, Sperry SLW, Crockett SD, *et al.* Epidemiology and management of oesophageal coin impaction in children. *Dig Liver Dis* 2012;44:482–6.
- Fincher RK, Osgard EM. A case of mistaken identity: accidental ingestion of coins causing esophageal impaction in an elderly female. *MedGenMed* 2003;5:3.
- Lawson VG, Middleton WG. Foreign Bodies in the aerodigestive tract. *Can Fam Physician* 1986;32:811–14.
- Stringer MD, Capps SN. Rationalising the management of swallowed coins in children. *BMJ* 1991;302:1321–2.
- Sittitrai P, Pattarasakulchai T, Tapatiwong H. Esophageal foreign bodies. *J Med Assoc Thai* 2000;83:1514–18.
- Sheikh MS, Sheikh MA, Mahmood T. Foreign body in oesophagus; role of parents in prevention. *Prof Med J* 2006;13:274–8.
- Lim C-T, Quah RF, Loh L-E. A prospective study of ingested foreign bodies in Singapore. *Arch Otolaryngol Head Neck Surg* 1994;120:96–101.
- Rodriguez H, Passali GC, Gregori D, *et al.* Management of foreign bodies in the airway and oesophagus. *Int J Pediatr Otorhinolaryngol* 2012;76(Suppl 1):S84–91.
- Triadafilopoulos G. *Ingested foreign bodies and food impactions in adults.* UpToDate. Waltham: UpToDate, 2011.
- DiMarino AJ, Benjamin SB. *Gastrointestinal disease: an endoscopic approach.* 2nd edn. John H Bond: Slack, 2002.
- Gilger MA, Jain AK, McOmber ME. *Foreign bodies of the esophagus and gastrointestinal tract in children.* UpToDate. Waltham: UpToDate, 2012.
- Rybojad B, Niedzielska G, Niedzielski A, *et al.* Esophageal foreign bodies in pediatric patients: a thirteen-year retrospective study. *Sci World J* 2012;2012:1537.
- Okoye IJ, Imo AO, Okwulehie V. Radiologic management of impacted coin in the oesophagus—a case report. *Niger J Clin Pract* 2005;8:56–9.
- Hohman MH, Harsha WJ, Peterson KL. Migration of ingested foreign bodies into the thyroid gland: literature review and case report. *Ann Otol Rhinol Laryngol* 2010;119:93–8.
- Gmeiner D, von Rahden B, Meco C, *et al.* Flexible versus rigid endoscopy for treatment of foreign body impaction in the esophagus. *Surg Endosc* 2007;21:2026–9.
- Conway WC, Sugawa C, Ono H, *et al.* Upper GI foreign body: an adult urban emergency hospital experience. *Surg Endosc* 2007;21:455–60.
- Baral BK, Joshi RR, Bhattarai BK, *et al.* Removal of coin from upper esophageal tract in children with Magill's forceps under propofol sedation. *Nepal Med Coll J* 2010;12:38–41.
- Bowa K, Bvulani B, Mukonge L. The use of Foley's catheter in the removal of a coin in the oesophagus. *Trop Doct* 2009;39:97–8.
- van der Pols JC, Bates CJ, McGraw PV, *et al.* Visual acuity measurements in a national sample of British elderly people. *Br J Ophthalmol* 2000;84:165–70.
- Abdelhafiz AH, Austin CA. Visual factors should be assessed in older people presenting with falls or hip fracture. *Age Ageing* 2003;32:26–30.

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