

Lower oesophageal meat bolus clearance using a radiologically guided balloon catheter: case in a 94-year-old patient

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Abstract

Lower oesophageal foreign body meat bolus obstruction is potentially life-threatening. We report a case in a 94-year-old woman in which conservative measures and flexible oesophagoscopy were unsuccessful. Rigid oesophagoscopy was considered technically difficult and so clearance by interventional radiology was attempted. Through the mouth a radiologically guided balloon catheter was introduced. It was passed beyond the bolus to dilate the site of obstruction, before being withdrawn and inflated above the bolus, pushing it into the stomach. Although successful in this case, the technique is previously unreported and so its complication rate is unknown. It is therefore presented only to be considered when other treatments are neither effective nor possible.

Key Words: Oesophagus; Foreign Bodies; Surgical Procedures, Operative; Disease Management

Introduction

Lower oesophageal meat bolus obstruction causes discomfort and complete or near-complete dysphagia. Ulceration of the oesophageal mucosa occurs. A prospective study has demonstrated that a third of such boluses pass spontaneously.¹ Retrospective case series report that at least 98 per cent can be cleared by flexible or rigid oesophagoscopy.^{2–5} Management of any remaining boluses is a problem.

Interventional radiology includes the use of balloon catheters. We report passing one such catheter beyond a lower oesophageal meat bolus and inflating the balloon to dilate a distal benign stenosis. Withdrawal and re-inflation of the balloon just above the bolus resulted in the meat passing into the stomach. To our knowledge this is the first report of such a case.

Case report

A 94-year-old woman presented with a history of feeling a piece of lamb stew stick suddenly in her throat whilst eating. She had been unable to drink since. She did not smoke or drink alcohol. There had been no previous episodes or gastrointestinal symptoms. On examination she could clear her own secretions but any fluids taken were brought back up within about 10 sec. Flexible nasoendoscopy was normal. She had cervical spine kyphosis and limited jaw opening but the rest of her head and neck examination was normal. She had a 10 cm pretibial laceration which had been the result of recent minimal trauma. The cervical oesophagus appeared normal on lateral neck X-ray.

The patient was admitted and intravenous fluids, buscopan and diazepam administered. After 12 hrs and no

clinical change, flexible oesophagoscopy identified a meat bolus in the lower oesophagus but could not enable it to be removed or pushed into the stomach.

After a further 36 hrs conservative management without improvement, interventional radiological clearance was carried out. A routine Gastromiro swallow (non-ionic) contrast medium demonstrated a large food bolus at the distal oesophagus. It lay immediately superior to a smooth stenosis, approximately 4 cm long, involving the gastro-oesophageal junction (Figure 1). The stenosis had the radiological appearance of a benign stricture.

The patient was initially positioned on her right side. Xylocaine was sprayed on the pharyngeal mucosa. Via a mouth guard a Tempo 4 Fr vertebral catheter and angled Terumo wire were used to navigate past the epiglottis into the oesophagus, past the bolus and stricture and into the stomach (Figure 2). Using a Seldinger technique the Terumo wire was substituted for an Amplatz super-stiff exchange wire, with the tip of the wire in the antrum of the stomach. Over this wire a 20 mm × 10 cm endoscopy balloon (Boston Scientific) was introduced and positioned across the stricture. Using hand pressure, this was inflated to the full diameter of the balloon under continuous fluoroscopy. The balloon was deflated. The bolus of food failed to pass. The balloon was therefore positioned above the bolus and again re-inflated to maximum diameter using hand pressure. Pressure was applied to the endoscopy balloon to help it push the bolus towards the stomach. The bolus and balloon then passed easily into the stomach.

The balloon was deflated and withdrawn, leaving the Amplatz wire in situ. No blood was observed on the balloon. The vertical catheter was re-introduced and used to inject contrast medium from the middle third of the

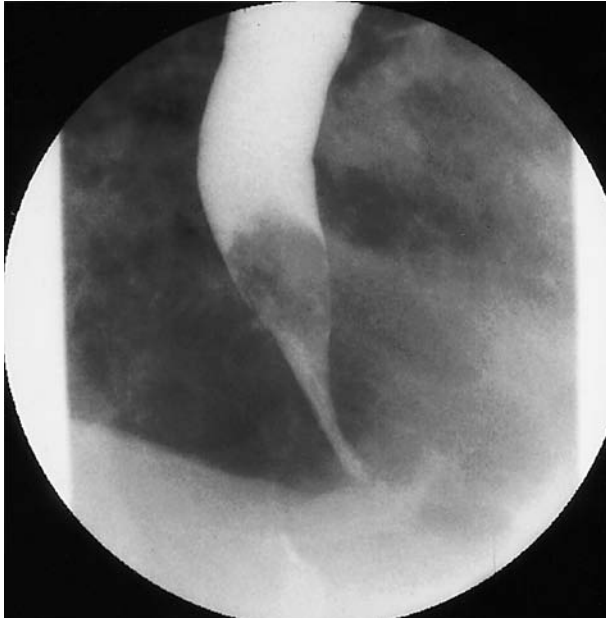


FIG. 1

Contrast swallow demonstrating large food bolus above an area of distal oesophageal stenosis.



FIG. 2

Temuro guidewire passing beyond the bolus, prior to introduction of an endoscopy balloon to dilate the distal oesophageal stenosis.

oesophagus. This confirmed there was no perforation of the oesophagus. The radiological appearance of the stricture was unchanged.

- **An elderly woman presented with impaction of boneless meat in the oesophagus**
- **Conservative measures and flexible endoscopy were unsuccessful in dislodging the bolus, which was eventually moved into the stomach using a balloon catheter**
- **This technique is previously unreported**

Discussion

Although this technique has not previously been described, its components have. Contrast studies and balloon dilatation of oesophageal stenosis are routinely carried out. Case reports describe contrast media aiding the passage of meat boluses into the stomach.⁶ The technique of pushing the bolus is the same as that used in the majority of cases cleared by flexible endoscopy.^{2,3}

Although successful in this specific case the complication rate of the technique described is unknown. This is in contrast to rigid endoscopy, which has been used for over 100 years, and flexible endoscopy, which has been used for over 70 years.^{7,8} It is therefore presented to be considered only when conservative measures and endoscopy are neither possible nor successful.

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