Dislodging of an Impacted Meat Bolus in The Esophagus Using Interventional Barium Swallow Technique

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CASE

A 19 year old girl presented to the emergency unit with a sudden inability to swallow and dyspnea. These happened after she attempt to swallow a piece of partially chewed meat. She has no history of psychiatric illness. A diagnosis of impacted oesophageal foreign body piece of meat was made and she was booked for oesphagoscopy under general anesthesia. In preparation for this procedure she was referred to radiology department for urgent plain lateral radiograph of the neck, which was normal. The radiologist recommended a barium swallow study with the aim of identifying the level of impaction and possible dislodging the meat bolus. The barium swallow performed under fluoroscopy (Fig. 1) showed hold up of barium at the distal third of the oesphagus with a ill-defined filling defect with filling defect. During subsequent swallow of barium in erect position, the described mass was seen passing down in to the stomach, leaving barium to fill the entire oesphagus. Afterwards, (Fig. 2) the oesphagus showed a normal outline, caliber and mucosal pattern with no evidence of filling defect, and no reflux or hiatus hernia demonstrated.

DISCUSSION

The most common cause of sudden onset of dysphagia, or odynophagia is intraluminal obstruction secondary to a swallowed foreign body and this is most often seen in infant, children or patients with psychiatric problems (1). However, the most common foreign body found in adults is a partially chewed meat bolus that lodges at an area of anatomic or pathologic narrowing (2). Sharp foreign bodies on the other hand do not lodge in such a predictable fashion and may snag at any level. Metallic foreign bodies are easily seen on plain film but for other objects contrast study may be required. Majority of
foreign bodies, which become impacted, do so in the cervical oesophagus (3). A plain lateral film of the neck may reveal the foreign body if it is radio-opaque. If nothing is found in this film a contrast study should be done. This may show the stream of contrast split by a radiolucent foreign body.

The removal of impacted foreign body in the oesophagus can be achieved medically or surgically using oesphagoscopy under general anesthesia, and by intervention radiology. Endoscopic removal carries a significant risk of perforation. If perforation occurred, resulting haemorrhage or edema causes thickening of the prevertebral soft tissue and may produce surgical emphysema, which may spread in to the mediastinum and around the thorax with resulting abscess formation (4).

Medically, the use of atropine to relax the oesophageal musculature or of glucagons to relax the oesophageal sphincter may help to encourage the passage of a lodged foreign body, as will swallowed of effervescent agents and water (4-5).

Radiological removal of foreign body in the oesophagus with effervescent agent and barium has been described in the literature (5). However; this therapeutic option has not been fully explored by otolargyngologist. This procedure is non-invasive and done under fluoroscopy with barium sulphate, and especially employed for non-sharp foreign bodies. Barium sulphate is the agent of choice because of its excellent contrast, availability, viscosity and high density. Its high density is particularly important in disimpacting lodged foreign body. Patient is asked to swallow diluted barium sulphate under fluoroscopy in upright position, this is to facilitate the mechanism of swallowing under gravity. Gastrograffin can also be used. However, its drawback is that it cannot be used in suspected perforation, and the images are not as dense or clear as those of barium. The swallowing assessment is performed mainly in lateral and AP projection. If foreign body is seen, additional barium should be swallowed until the object is successfully dislodged. Nonetheless, this procedure may not be successful (in a child or uncooperative patient) and eventually the patient may have to have the surgery.

Figure 1a. Antero-Posterior and Lateral barium swallow showing an ill-define filling defect due to the meat foreign body at the distal end of the esophagus. (Arrow)

Figure 1b. Normal barium swallow few minutes later.
SUMMARY

The role of interventional radiology was demonstrated in this case where an impacted bolus meat bolus in the oesphagus was successfully dislodged using high-density barium sulphate under fluoroscopy.

REFERENCES


