

## Endoscopic Retrieval of Impacted Meat Bone Causing Chronic Dysphagia

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### Abstract

Impacted foreign body in esophagus is a clinical emergency as such most often seen in children, but sometimes in adults foreign bodies are usually accidentally ingested admixed with food. Food foreign body require emergent treatment within 2 hours and definitive treatment within 6 hours. In adults, fish bone is the most common food associated foreign body in Asia, while meat bone is the most common cause in Europe. Male gender is more commonly involved gender than female.<sup>1</sup> In 80% of cases, the ingested material pass uneventfully through the gastro/intestinal tract (GIT).<sup>2</sup> Endoscopy is performed in 20% cases<sup>3</sup> and surgical intervention is required in less than 1% cases.<sup>4</sup> Emergency esophagogastroduodenoscopy is indicated when occlusion is complete, impacted object is sharp and if impacted foreign body is a battery. Poor prognosis is associated with time lapse after impaction, type of foreign body and size of foreign body (>3 cm). We are reporting a case of chronic dysphagia of more than one year duration in a male caused by impacted meat bone of size more than 3 cm in esophagus.

**Keywords:** Esophagus; Endoscopy; Chronic dysphagia; Gastro intestinal tract (GIT).

### Introduction

Aero-esophageal foreign body disease can be divided according to part involved like tracheobronchial, oropharyngeal, esophageal. Except tracheobronchial, all others are considered as foreign body of digestive tract. In children, coins are the most common foreign body, while in adult food associated foreign bodies are more common. In 80% of cases, the ingested material passes uneventfully through the GIT. Endoscopy is performed in 20% cases and surgical intervention is required in less than 1% cases. Intentionally ingested foreign bodies require endoscopic intervention in (73–76%) and surgical intervention in (13–16%) cases. Esophageal foreign bodies in adults are more common in patients with age >40 years because of decreased swallowing movements and physiological changes that occurs with age.<sup>5</sup> There are four sites where a foreign body can be lodged–upper esophageal sphincter, aortic arch eminence, left bronchus crossing oesophagus and lower esophageal sphincter. Upper esophageal sphincter is the most common site as it is the narrowest part of oesophagus. Linear bones tends to obstruct the pharynx, while polygonal or flat bones tends to get lodged in oesophagus. Emergent treatment should be sorted within 2 hours and definitive management should be sorted out within 6 hours, and if foreign body is sharp and impacted at site of aortic eminence in oesophagus a cardiovascular surgeon should always there in back up.

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## Case Report

A 60-year-old gentleman presented in out-patient department of our institute with complaint of; on and off pain in retrosternum while swallowing, sticking of food in the chest since last one year. Initially he developed dysphagia towards solid food which gradually proceeded towards liquids and then he suffered recurrent episodes of vomiting every time he took anything orally. Vomitus always contained undigested food particles. Recurrent episodes of vomiting brought the patient to us. Because of all these group of symptoms, patient was frightened of taking anything orally and he started losing weight rapidly. Patient was admitted and put on parenteral nutrition, IV fluids, antiemetics. A barium swallow was performed which showed irregular narrowing at lower esophagus. A preliminary chest X-ray was done to rule out any lung mass compressing on esophagus. Finally he was posted for esophagogastroduodenoscopy. Esophagogastroduodenoscopy was carried with 4% lignocaine topical anesthetic spray, with patient in left lateral position and mouth gag in place. During endoscopy, a meat bone of size 3 cm × 1.5 cm was found impacted at 32 cm from incisors (Fig. 1).



**Fig. 1:** During endoscopy, a meat bone of size 3 cm × 1.5 cm was found impacted at 32 cm from incisors.

Along with it some undigested food particles were also found occluding more than two-thirds of the esophageal lumen. Esophagitis at the surrounding site of impaction was also noted. With the help of alligator forceps the meat bone was removed successfully (Fig. 2). Rest of the endoscopic view of esophagus, stomach and duodenum was unremarkable.



**Fig. 2:** Meat bone was removed successfully.

## Discussion

A number of cases of foreign body retrieval from GIT, tracheobronchial tree are reported. The major causes for foreign body disease differ among children and adults. Coins are the most common foreign body in children and it is almost always accidental. In adults foreign body disease is common among psychiatric, developmentally disabled patients.

Sometimes it can be intentional too, like in cases of prisoners for seeking secondary gains. Esophageal food foreign body is more common in males. Fish bone is more common culprit in Asian population, while meat bone is more common cause in western world. Every esophageal foreign body should be treated emergently within 2 hours and definitive management should be given within 6 hours. In 80% of cases, the ingested material passes uneventfully through the GIT.

Endoscopy is performed in 20% cases and surgical intervention is required in less than 1% cases. Intentionally ingested foreign bodies require endoscopic intervention in (73–76%) and surgical intervention in (13–16%) cases.

Size, shape, site of impaction and time lapse after impaction are also important in deciding the outcome of intervention. Esophagogastroduodenoscopy is both diagnostic and therapeutic, so it is the first modality used. Since meat bones have sharp edges, it can penetrate the mucosa so a prophylactic antibiotic can be started. If there is perforation, laceration, abscess formation, it should be managed like mediastinitis.<sup>6,7</sup> Protective devices are needed for safe retrieval of sharp bones.

Endotracheal intubation should be considered in high-risk patients. In food bolus impaction, push technique into stomach is the primary treatment. Risks of complications are high with sharp bones and sharp foreign bodies, so endoscopic retrieval in sheath covered instrument is the treatment of choice.

### Conclusion

The fish bone foreign body is most common in Asia and meat bone is most common food foreign body in west. A foreign body should be removed within 24 hours. A long-time lapse is associated with high risk of complications. Computerized Tomography is considered if there is any suspicion of complication. For safe removal of sharp-edged meat bone, use of an over tube is recommended. If sharp foreign body like meat bone is impacted in esophagus near aortic eminence, then it is mandatory to have a standby cardiothoracic surgeon during removal of foreign body.

### Conflict of interest

There is no conflict of interest.

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