Case Report

Incarcerated esophageal foreign body: when conventional scope fails

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ABSTRACT

We present a case of a 34-years old man with underlying mental retardation who presented with incarcerated esophageal foreign body. Esophagoscopy was unsuccessful and cervical esophagotomy was performed to remove the foreign body. (Rawal Med J 2013;38: 197-199).

Keyword: Incarcerated foreign body, esophagotomy, vocal cord palsy.

INTRODUCTION

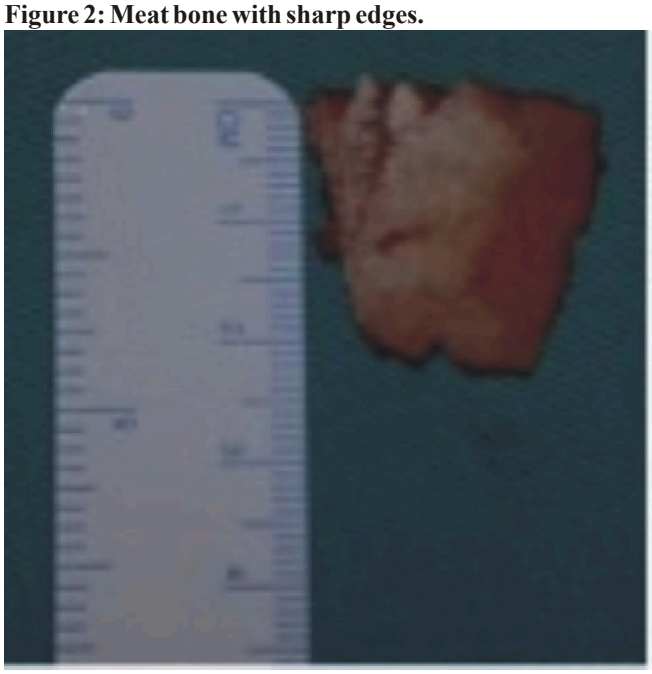
Ingestion of foreign body (FB) is a common clinical emergency. Although majority will pass through the gastrointestinal tract and leave the body,[1] impaction may occur especially over the known anatomical narrowing and the result, if not treated promptly, could be disastrous. Risk of complication from untreated FB impaction multiplies several-fold, from 3.2% at 24 hours to as high as 23.5% at 48 hours.[2] Endoscopic removal is the treatment of choice with 99% of success rate.[3]

CASE PRESENTATION

A 34 years-old man with underlying mental retardation and learning disability, was referred to our hospital with complaint of FB sensation, odynophagia and inability to tolerate solid food after he allegedly choked on a piece of meat bone 4 days earlier. Attempt at self-removal made by patient were futile. A FB could not be appreciated on a plain radiograph and he was referred to our tertiary center. Physical examination on same day revealed a comfortable young man, not in respiratory distress and was afebrile. He localized pain to an area midline to the neck, below cricoid level. Indirect laryngoscopic examination revealed a normal laryngeal inlet, mobile vocal cord bilaterally with pooling of saliva. No FB was seen. Lateral cervical radiograph showed an increased in prevertebral shadow at the level of C7 with no radio opaque lesion.

We performed a rigid esophagoscopy under general anesthesia and impacted meat bone was identified at 19 cm from the upper incisors. Multiple attempts to dislodge and remove it using a forcep failed. Surgical team was called and attempted couple of times using forcep through esophagogastro-duodenoscopy but the bone appeared to be deeply embedded in the esophageal mucosa. A senior surgeon was

Figure 2: Meat bone with sharp edges.



After a vertical incision, esophagus identified and meat bone measuring 2 x 2 cm with sharp jagged edge, was retrieved without any difficulty (Fig 1). The mucosa appeared healthy without any slough. A Gastrografin swallow five days post operatively

showed no leakage or extravasation of contrast media. However patient was noted to have weak and hoarse voice. A flexible nasopharyngolaryngoscope (FNPLS) showed right vocal cord in abducted position with a mobile left vocal cord, not compensating well, leaving a phonation gap. He was treated conservatively and was discharged with tube feeding. Subsequent follow up at one month showed improvement in voice quality and FNPLS showed a compensated left vocal cord leaving no phonation gap.

DISCUSSION

The safety and success rate of endoscopic foreign body removal is well established. Rigid endoscopy,[4] and nonendoscopic methods like fluoroscopic balloon extraction[5] and blind bouginage of the FB into the stomach[6] have been described mainly for blunt FB. Only less than 1% of foreign bodies are irretrievable by endoscopic technique and require esophagotomy.[7] In adults, the factors contributing to incarceration of esophageal FB are their size and sharpness as well as a neglected FB which has migrated through the esophageal wall.[8] In our patient, the sharp edge of FB was embedded within the mucosal layer of the esophagus resulting in failure of retrieval through endoscope. In addition, periesophagitis at the site of impaction may increase the risk of perforation if force is applied. Therefore, in this case the removal of FB was done surgically under direct vision. In a large study, only 4 out of 815 (<0.5%) patients required esophagotomy for FB removal.[8]

Although mental retardation and intellectual impairment can be a risk factor for deliberate FB ingestion,[9] it is believed that the ingestion in our patient was purely accidental. His underlying mental retardation could have been a factor in the delay in seeking treatment.

The usefulness of plain radiograph as the most commonly performed mode of evaluation of FB remains debatable.[10] One study showed that lateral radiograph of the neck changed management approach in only 1.4% of the case.[11] However, another study showed that soft tissue swelling, FB shadow and air in esophagus may be helpful.[12]

Our patient developed an iatrogenic right vocal cord paralysis following surgical procedure. Iatrogenic causes are frequently associated with surgery to the neck region mainly thyroid surgery, carotid endarterectomy, anterior approach to cervical spine, base of skull surgery and as well as thoracic surgery.[13] To our best knowledge, no comprehensive study has been made regarding correlation of vocal cord palsy with esophagoscopy or esophagotomy.

In summary, the main factor contributing to the failure to remove esophageal FB endoscopically is its size and sharpness. Attempt to remove it with force will only subject the patient to risk of esophageal perforation. Therefore, esophagotomy may be a safe and reliable method for retrieving the FB. Comprehensive data is needed to correlate the incidence of iatrogenic unilateral vocal paralysis with procedures such as rigid esophagoscopy and esophagotomy.

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