Case Report

Unusual foreign body in oesophagus: a case report

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Abstract

Foreign body in esophagus is not a very rare entity. The main risks are to the children under 3 years of age. In this age group the second molars have not yet developed, the child's grinding and swallowing mechanisms are poor and glottic closure is immature. Some patients at risk for foreign body ingestion may not be able to give an accurate medical history of ingestion, either due to age or mental illness. Coins are the most commonly ingested foreign bodies (FB), with button batteries, fish bone, marble, stone, and pieces of meat, etc., being other forms of ingested foreign body. In majority of cases, it is accidental in nature but can be occasionally homicidal. Patient can be asymptomatic or can present with dysphagia, drooling of saliva, foreign body sensation, vomiting or pain. Patients with long-standing esophageal foreign bodies may present with weight loss, aspiration pneumonia, fever, or signs and symptoms of esophageal perforation including crepitus, pneumomediastinum, or gastrointestinal bleeding. Here we present a case report of unusual foreign body in esophagus which was successfully removed by rigid esophagoscopy without any complication.
Keywords: Homicidal, dysphagia, drooling of saliva, crepitus, pneumomediastinum, esophagoscopy.

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INTRODUCTION

Foreign body (FB) in esophagus is not uncommon especially in paediatric age group. Impacted foreign body can be found in the tonsils, base of tongue, pyriform sinus and cervical esophagus[1]. Non spherical objects equal to or less than 1.5 inches and particularly spherical objects equal to or less than 1.75 inches in diameter are specially dangerous for impaction in pharynx and esophagus[2]. Diagnosis can be made by positive history of FB ingestion and a plain radiograph. Lateral view to determine if the object is in the pharynx or the airway. AP view is of great help specially if the FB is orthogonal to the plane of view. CT scans are indicated in suspected migrated foreign bodies. Early removal is important as edema and mucosal swelling will make the retrieval more difficult. A rapid and accurate diagnosis, together with subsequent treatment is necessary. In 20% of cases, endoscopic or surgical removal is promptly required[3,4]. Major complications include esophageal perforation (0.2-2.0% cases) (from either the FB or endoscopic procedure), mediastinal abscess, retropharyngeal abscess, migration of FB into deep structures, luminal stenosis, perforation of large arteries of neck[5]. Longstanding esophageal foreign bodies may cause failure to thrive or recurrent aspiration pneumonia

CASE REPORT

A 1 year old male child brought to the emergency department with complaints of difficulty in swallowing for liquids since 4 days. There was a sudden history of blood mixed vomiting 4 days back for which they consulted some private practitioner. Patient developed fever and black stool the next morning and was admitted to some private hospital. Getting no response to the treatment after 2 days X ray neck with chest was done which showed some radio-opaque object at the level of C6 vertebra in the cricopharynx. Patient was referred to our hospital and was posted for emergency oesophagoscopy under GA. A sharp metallic foreign

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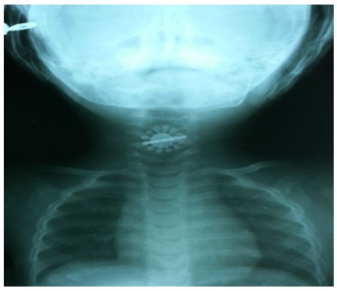
body of diameter 3cm (with spike like projections all around) which was part of bangle was removed by rigid oesophagoscopy. Check scopy done and infant feeding tube of number 10 inserted into esophagus under direct vision. No perioperative complications.



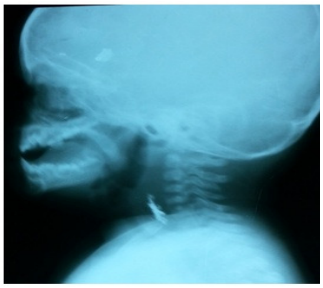


Figure 1 and 2: AP and lateral view showing radio opaque FB in cricopharynx

Figure 3: Metallic FB after removal

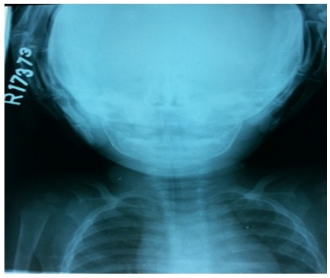


Figure 4: Postoperative X ray with IFT in situ

DISCUSSION

Plain radiographs generally are used in the initial investigation of patients with suspected foreign body ingestion, but in one study[6] of 325 children, only 64 percent of the ingested objects were radiopaque. Most foreign bodies pass through the gastrointestinal tract spontaneously. In the pre-endoscopy era, 93 to 99 percent of blunt objects passed without intervention, and approximately one percent required surgical removal[7]. Today, 10 to 20 percent of children who ingest foreign bodies are managed with endoscopy[7]. X-rays are also useful for identifying the type of foreign body ingested and complications of foreign body ingestion, including mediastinitis and perforation of the esophagus. For esophageal FB the choice between flexible and rigid endoscopy remains controversial. Rigid endoscopy gives a much better view of the hypopharynx, cricopharynx and the first few centimeters of cervical esophagus where as a flexible endoscope gives an excellent view in the thoracic esophagus and esophagogastric junction. Once the foreign body has entered the stomach, most objects pas in 4 to 6 days. Many sharp-pointed objects, wooden, plastic, and glass objects, as well as fish and chicken bones, may not be seen on radiographs, so endoscopy should still follow a radiologic examination with negative findings. Some experts recommend barium esophagography for patients with a suspected radiolucent foreign body lodged in the esophagus. Because contrast studies pose a risk of aspiration and compromise subsequent endoscopy, an expert panel[8] recommended endoscopy rather than barium study if radiographs are negative. The risk of a complication caused by a sharp-pointed object passing through the gastrointestinal tract is as high as 35 percent[9]. Devices used for FB removal include forceps, which come in varying shapes, sizes and grips, snares, and oval loops that can be retracted from outside the gastroscope to lasso objects, as well as Roth baskets (mesh nets that can be closed to trap small objects), and magnets placed at the end of the scope or at the end of orogastric tubes. In 1966, Bigler[10] reported a method of extracting smooth esophageal foreign bodies using a Foley balloon catheter. The Foley catheter technique was used predominantly in children with proximally located blunt objects. Magill forceps is a well-studied technique for the extraction of foreign bodies from the upper and medium part of the esophagus. After stabilizing the FB with forceps scope is then gently advanced forward over the FB enveloping it in the lumen of the rigid scope. A similar technique, to avoid esophageal injury while removing sharp objects, includes grasping the object with its sharp end pointing downwards into the lumen and pulling FB out without contact with the esophageal wall during removal[11]. Another method for the removal of irregular or sharp objects is the use of overtube[12]. Overtube is plastic tube of varying length, through which the scope and retrieved objects are passed. Because of the risk of esophageal injury during insertion, overtube use is less common in pediatric patients, although newer, softer tubes may help to mitigate this risk in older children. In 2007, Lin *et al*. performed a study on foreign body ingestion over a 5-year period in children living in Taiwan, reviewing medical records of children who were referred to the paediatric emergency department of a single tertiary referral centre between December 2001 and May 2006[13]. A total of 74 patients underwent an endoscopic procedure because of suspected foreign body ingestion, and in 38 cases the object was located in the esophagus. In 2003, Van as *et al*. analyzed injuries due to FB ingestion among the 88822 patients treated in their trauma unit from 1991 to 2000. Among those injuries, 753 were FBs wedged in the esophagus[14]. The most frequent lodgment site described in literature is the cricopharyngeus muscle [15]which was also seen in this case. Rimell and Stool[16] performed a retrospective study in which they examined the characteristics of objects that had caused serious aerodigestive tract (airway, cricopharyngeal, or esophageal) injuries, with the definition of serious being

indicated by the need of operative removal or the occurrence of death due to choking, as reported from the Consumer Product Safety Commission (CPSC). Their results confirmed previous reports found in the medical literature, showing that the risk of injury or death posed by food, toy or toy part, or another object depends upon its size, shape, and consistency. In 2005, Waltzman *et al*. performed a randomized trial in children with coins lodged in the esophagus after their ingestion, comparing relatively immediate endoscopic removal to the choice of observation for a definite period of time[17] and retrieved a high frequency of spontaneous passages within 16 hours of observation. Although in our case the FB was not coin, this period of observation was over because of the delay in arrival of the patient to our hospital. In a subsequent paper, he suggested that in symptomatic patients with an esophageal coin, immediate removal via endoscopy is recommended whereas for asymptomatic patients with an esophageal coin, data supported an expectant management for a period of 12–24 hours[18].

CONCLUSION

Prevention of FB ingestion is not addressed adequately in families in terms of stressing the need of active supervision of children when playing, eating or interacting with objects inadequate to their age. An expectant management for a period of 12–24 hours can be chosen when dealing with low-risk patients. Rigid esophagoscopy still remains the mainstay management of impacted esophageal foreign bodies. However, the technique of removal must be tailored to the type, location and possible complications imposed by individual FB.

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