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SURGICAL REMOVAL OF IMPACTED ESOPHAGEAL FOREIGN BODY: A CASE REPORT

Paediatric Surgery

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ABSTRACT

Foreign body (FB) impaction in the esophagus is fairly common in pediatric population. This study aims to describe a case of an unusually impacted button battery in the cervical esophagus of a 4-year-old child and was removed by right lateral thoracotomy with esophagostomy with chest tube placement. A 4-year-old female child presented to the pediatric surgery department with difficulty in swallowing to semisolids and solids with alleged history of ingestion of a foreign body more than one month back. A plain X-ray of the neck and chest, however, revealed a single circular opacity in upper part of the esophagus. Patient was referred to ENT department followed by Gastroenterology Department but the foreign body could not be retrieved. Surgical management was the last resort for this impacted foreign body esophagus in children in experienced hands.

KEYWORDS

Button battery, foreign body, impacted, surgical management.

INTRODUCTION

Ingestion of foreign body is a familiar problem in Pediatric practice.[1] The ingestion of foreign body in Pediatric population presents a great challenge for surgeons. Commonly these events can be unwitnessed by parents, leading to an even greater problem in diagnosis. Children make up roughly 80% of patients presenting to emergency department with an esophageal foreign body.[2]

Usually, the foreign body esophagus is removed with the help of flexible/rigid pharyngoesophagoscopy or endoscopy.

This case highlights the surgical management of impacted foreign body when all the other available measures fail.

Case Report

A 4-year-old female child presented to the department of Pediatric surgery with difficulty in swallowing to solids and semisolids along with pain in throat after alleged history of ingestion of foreign body more than a month back.

At presentation, the child was conscious, no respiratory distress and was not dehydrated. The oral cavity examination was normal with no visible foreign objects. A general physical examination was normal. A plain radiograph of the neck and chest revealed a round radio-opaque object located at cervical esophagus. [fig. 1]

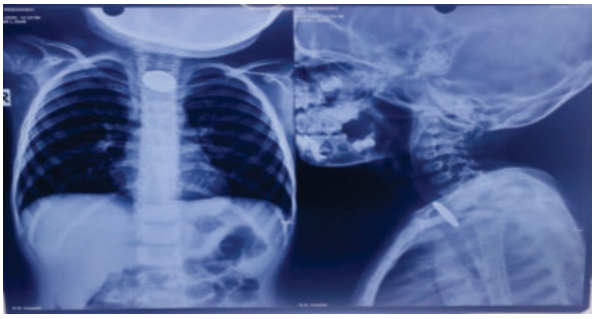

Fig 1. X-ray AP and Lateral view showing radio-opaque object in cervical esophagus

The child was sent to ENT department for the retrieval of foreign body but couldn't succeed.

Again, the reference to the Gastroenterologist was done & endoscopy was done. The button battery was found deeply embedded in cervical esophagus just below cricophaynx which could not be extracted using the alligator forceps, though tried twice.

Surgical procedure was planned to retrieve the battery cell.

A right postero-lateral thoracotomy was done and esophagostomy done at T2-T4 level and the deeply embedded foreign body was removed & chest tube placement was done. The object was identified to be button lithium battery of size approximately 10 mm. [fig 2]

Fig 2 : image showing removal of foreign body found to be a button battery

The child was kept under observation for 8 days post operatively. On 9th day a gastrograffin dye study was done to exclude any leak from the esophagus repair site [figure 3].

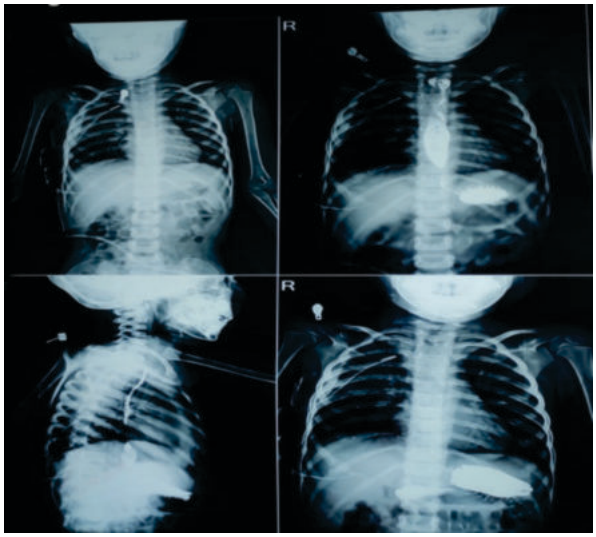

Fig. 3: Postoperative gastrograffin dye study showing no leak from the esophagus repaired site

The child was then taken on to clear fluids for one day and subsequently on semisolids and then solids. The child was discharged on 12th post-operative day.

DISCUSSION

Ingestion of foreign body is a familiar problem in Pediatric age group.[1] Demand and usage of button batteries have risen due to increase in the usage of technological devices.[3] They are frequently inadvertently placed by children in ears, noses and mouth, and occasionally are swallowed and lodged along the upper aerodigestive tract.[3,4,5] Button batteries represent about 2% of all foreign bodies, although this percentage seems to be increasing.[6,7] Button battery ingestion occurs more commonly in children younger than 3 years with increasing severity and mortality for children younger than 4 years.[6,7,8,9] Our patient is a 4-year-old female child who ingested a round flat shaped foreign body. Button batteries represent a low percentage of all foreign bodies swallowed by children, and esophageal location is even less frequent.[5] Majority of ingested foreign bodies pass along gastrointestinal tract without causing any symptoms or complications.[10] Swallowed button batteries rarely remain in the esophagus due to its smooth surface and edge and the presence of saliva, may also serve as a lubricant, which facilitate its passage down to the stomach. However, it has been reported that possible locations of impaction of ingested FBs in the esophagus are the thoracic outlet, mid-esophagus and lower oesophageal sphincter.[6] The battery ingested by this 4-year-old female child got lodged at the thoracic inlet at T1 and T2 vertebra might have been bigger than the diameter of the esophagus at that point. This may be responsible for the impaction of the button battery which had to be dislodged, and pushed down into stomach through to the duodenum. Button lithium batteries represent a distinct type of FB. Serious complications such as esophageal burns, voltage discharge, erosions, ulcers, esophageal perforation, trachea-esophageal fistula and stenosis could occur due to the chemical composition of the battery, particularly when battery is impacted in the esophagus.[3,6,11,12,13]Although some patients who have impacted esophageal FBs may be asymptomatic, others present with respiratory distress, tachypnoea, wheezing, stridor, dysphagia, coughing, drooling, etc.[6] Our patient presented with dysphagia to semisolids and solids. Ingested FBs that get impacted in the esophagus or other part of GI tract require urgent endoscopic removal where such facilities are available. Flexible endoscopy is the therapeutic modality of choice for most of the patients. In our case flexible endoscopic removal of the button battery could not be succeed.

In our patient right postero-lateral thoracotomy with esophagostomy under general anesthesia was done with removal of the button battery. The patient remains stable post operatively and gastrograffin dye study excludes any leakage from the esophagus repair site and the patient was discharged subsequently. She was subsequently followed up for three months in the Pediatric surgery out-patient clinic without any unfavored event.

There is paucity of data on similar studies with which to compare, and might be the first reported case of surgical management of impacted foreign body in esophagus in this part of country.

CONCLUSION

Surgical management of impacted foreign body is an effective though last resort when all the other available measures fail which saves a child from esophagus replacement procedure, if retrieval is delayed due to esophageal necrosis & reduces co-morbidity & mortality.

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