



Endoscopic removal of impacted oesophageal foreign body: A case report and a review of literature

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ABSTRACT

Foreign body (FB) impaction in the oesophagus is fairly common in paediatric Gastroenterology practice. This study aims to describe a case of an unusually impacted button lithium battery, in the mid-oesophagus of a 7-year-old child that was confirmed, and removed during oesophagogastroduodenoscopy. A 7-year-old male child, presented at the Emergency Paediatric Unit of our hospital with a history of ingestion of a button-like metallic object. A plain soft tissue X-ray of the neck and chest, however, revealed a dense round object located at the sternal angle of Louis. The object was dislodged and identified as a flat lithium battery after an oesophagogastroduodenoscopy, carried out under general anaesthesia using a flexible forward-viewing video gastroscope. The button battery was subsequently passed in faeces. Endoscopic removal of impacted oesophageal FBs under general anaesthesia is an effective and safe procedure in children in experienced hands.

Key words: Button battery, endoscopic retrieval, foreign body, impacted, oesophagus

INTRODUCTION

Ingestion of foreign bodies (FBs) is a familiar problem in Paediatric practice.^[1] Demand and usage of button batteries have risen due to the increase in the usage of technological devices.^[2] They are frequently inadvertently placed by children in their ears, noses and mouth, and occasionally are swallowed and lodged along the upper aerodigestive tract.^[2-4] There is a paucity

of data on endoscopic removal of impacted oesophageal FBs from this part of the country.

The aim of this study is to describe a case of an unusually impacted button lithium battery, in the mid-oesophagus of a 7-year-old child that was confirmed, and removed during oesophagogastroduodenoscopy using a flexible forward-viewing video gastroscope.

CASE REPORT

A 7-year-old boy presented to our Emergency Paediatric Unit with a 10-h history of ingestion of a button-like metallic object. He started vomiting repeatedly following the ingestion, and also developed pain in the throat with associated dysphagia. There was no difficulty with breathing.

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

An oesophagogastroduodenoscopy carried out under general anaesthesia revealed a flat round slippery metallic object covered with ingested food that was impacted at the mid-oesophagus [Figure 2].

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There were inflammatory changes and superficial ulcers at the point of impaction in the oesophagus [Figure 2]. The rounded metallic object was dislodged with an endoscopic grasping forceps and pushed down the oesophagus through the stomach into the second part of the duodenum. The child eventually passed the object out with faeces, about 24 h after endoscopy [Figure 3]. The object was identified to be a button lithium battery [Figure 4]. He was discharged on the 3rd day of admission. He is being followed up in the paediatric out-patient clinic.

DISCUSSION

Ingestion of FBs is a familiar problem in Paediatric practice.^[1] Demand and usage of button batteries have risen due to the increase in the usage of technological devices.^[2] They are frequently inadvertently placed by children in their ears, noses and mouth, and occasionally are swallowed and lodged along the upper aerodigestive tract.^[2-4] Button batteries represent about

2% of all FBs, although this percentage seems to be increasing.^[5,6] Button battery ingestion occurs most commonly in male children, younger than 3 years with increasing severity and mortality for children younger than 4 years.^[5-8] Our patient is a 7-year-old male child who ingested a round flat shaped lithium-battery. Button batteries represent a low percentage of all FBs swallowed by children, and the oesophageal location is even less frequent.^[5] Majority of ingested FBs pass along the gastrointestinal (GI) tract without causing any symptoms or complications.^[9] Swallowed button batteries rarely remain in the oesophagus 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 oesophagus are the thoracic outlet, mid-oesophagus and lower oesophageal sphincter.^[6] The battery ingested by this 7-year-old male child that got lodged at the mid-oesophagus might have been bigger than the diameter of the oesophagus at that

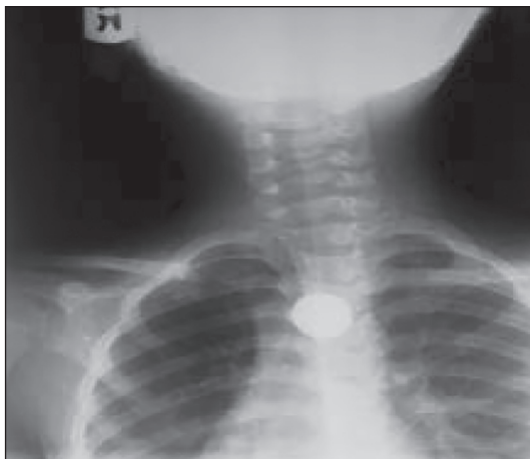


Figure 1: Chest X-ray showing the radio-opaque foreign body



Figure 2: Oesophagogastroduodenoscopy showing inflammatory changes and ulcers at the point of impaction in the mid-oesophagus

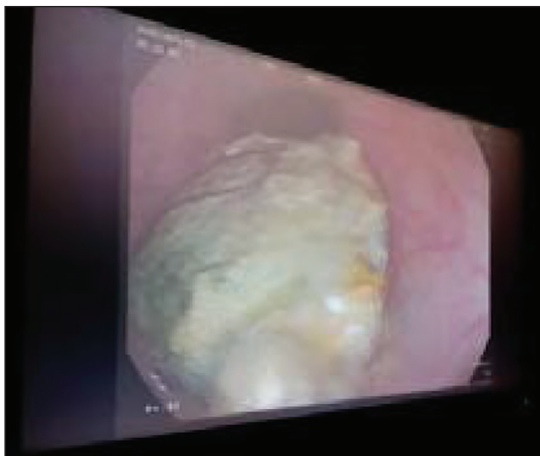


Figure 3: The rounded metallic object passed with faeces



Figure 4: The button lithium battery

point. This may be responsible for the impaction of the button battery which had to be dislodged, and pushed down into the stomach through to the duodenum. Button lithium batteries represent a distinct type of FB. Serious complications such as oesophageal burns, voltage discharge, erosions, ulcers, oesophageal perforation, tracheo-oesophageal fistula and stenosis could occur due to the chemical composition of the battery, particularly when the battery is impacted in the oesophagus.^[2,6,10-12] There were ulcers in the oesophagus at the point of impaction of the lithium battery in our patient [Figure 2]. Although some patients who have impacted oesophageal FBs may be asymptomatic, others present with respiratory distress, tachypnoea, wheezing, stridor, dysphagia, coughing, drooling, etc.^[6] Our patient presented with vomiting, pain and dysphagia. Ingested FBs that get impacted in the oesophagus or other parts of the GI tract require urgent endoscopic removal where such facilities are available. Flexible endoscopy is the therapeutic modality of choice for most patients. The use of devices such as a latex protector hood or an overtube may facilitate safer extraction of sharp objects if it is available. Our patient had urgent therapeutic oesophagogastroduodenoscopy with a flexible forward-viewing video gastroscope under general anaesthesia within hours of presentation. The lithium battery was dislodged and pushed down through the stomach to the duodenum. This led to immediate symptom relief and the passage of the button lithium battery in faeces about 24 h later [Figures 3 and 4]. The patient remained stable and was discharged about 24 h thereafter. He was subsequently followed up in the paediatric out-patient clinic.

There is a paucity of data on similar studies with which to compare, and this is the first reported case of endoscopic removal button lithium battery impaction in the oesophagus in this part of the country.

CONCLUSION

Endoscopic removal of impacted oesophageal FBs under general anaesthesia is an effective and safe procedure

in children in experienced hands. This procedure also prevents erosion and perforation of the GI tract. Impacted lithium battery oesophageal FBs require urgent endoscopic removal, which is the best modality of treatment to prevent imminent complications.

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Conflicts of interest

There are no conflicts of interest.

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