Foreign body oesophagus in a neonate: A common occurrence at an uncommon age

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ABSTRACT

Neonatal ingestion of foreign body is a very uncommon occurrence. We describe a 25-day-old neonate who had a large-sized stone impacted in the cervical oesophagus. The stone was accidently lodged by one of the elder siblings while playing. The stone, after failure to be retrieved endoscopically, was successfully removed by open esophagotomy. The case describes the unusual occurrence at a very uncommon age. It also re-affirms the successful role of open surgery in such situations, which are otherwise commonly treated endoscopically.

Key words: Foreign body, neonate, esophagoscopy, stridor

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INTRODUCTION

Accidental ingestion of foreign bodies (FBs) in the paediatric age group is a recognised problem worldwide. Toddlers have a tendency to keep everything in the mouth and hence they are the most vulnerable[1] to such accidents. All sorts of FBs with both oesophageal and airway problems have been described. In the following article, we present a rare case of a large-sized stone logged as a FB in the cervical oesophagus in a 25-day-old neonate. The unique age of the patient and the management undertaken merits discussion.

CASE REPORT

A 25-day-old neonate was brought to the paediatric emergency with history of accidental ingestion of FB in the mouth, which probably was inserted by one of the elder siblings while playing. Following this, the baby started having complaints of intolerance to feeds and excessive drooling of saliva. The baby was brought to emergency on the second day after the incident. On examination, the child was stable and was breathing normally without any stridor. He had a swelling palpable in the cervical region on the right side, which was stony-hard in consistency. Cervical X-ray revealed a large radio-opaque shadow in the neck measuring about 2 X 3 cm in size [Figure 1]. Esophagoscopy carried out with a size 8-mm diameter flexible endoscope after 48 h of the accident confirmed the presence of a large stone in the cervical oesophagus that was impacted. Attempts at endoscopic removal with the help of a dormia basket or a grasping forceps were tried but failed due to the large size and the impaction of the stone. Following endoscopy, the patient was taken up under general anaesthesia because the stone was not in vision by direct laryangoscopy so as to be extracted by McGill's forceps. A right cervical exploration and a longitudinal esophagotomy were performed to retrieve the stone [Figure 2]. A nasogastric tube was inserted and feeds were started on the second post-operative day. A contrast esophagogram carried out on the ninth post-operative day showed no extravasation of the



Figure 1: Chest X-ray showing the la

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Figure 2: Pre-operative photo showing the opened cervical oesophagus with removal of the stone

contrast medium. The child was discharged on full oral feeds. She has been doing well after 5 months of follow-up.

DISCUSSION

Eighty percent of all FB ingestions occur in children, with a peak incidence being between the ages of 6 months and 3 years.[2] This is when the child moves around and teething starts.[3] Coins are the most common FB ingested by young children. Of the FBs that comes to medical attention, 80–90% of them pass through the gastrointestinal tract without any difficulty. Approximately 10–20% require endoscopic removal whereas 1% or less require surgical intervention in the form of laparotomy.[4] Common sites for obstruction by an ingested FB include the cricopharyngeal area and the middle one-third of the oesophagus (at the level of the aortic arch) and lower oesophageal sphincter (just above the diaphragm).[5] Occurrence of such accidents in neonates are rare and are seen in circumstances where either it has been inserted in the mouth playfully by an elder sibling or homicidal attempts of an unwelcome female child in lower socioeconomic status families.

In the presented case, because the stone was of a large size (2 x 3 cm), it was impacted in the cervical oesophagus. There are cases where oesophageal FB had produced respiratory complications either by physical compression over the airway or by erosion into the trachea.[4,6] Oesophageal FB can damage the oesophagus and lead to strictures.[7] Apart from eroding into the trachea, the object can erode into the aorta, leading to exsanguinations and death.[8] Sharp objects like safety pins and needles plastic pieces may perforate the oesophagus. Serious complications from FB ingestion, including sudden death, oesophageal perforation and abscess formation, have been reported by many authors.[1,4] Fortunately, in the present case, the FB did not produce any early respiratory complications apart from impaction.

Diagnosis of such situations is not difficult as a family member commonly provides a leading history of such an event. Radio-opaque FB such as coins and stones are visible on plain X-rays. Some experts recommend barium esophagography for patients with a suspected radiolucent FB lodged in the oesophagus[9] As contrast studies pose a risk of aspiration and compromise subsequent endoscopy, an expert panel recommended endoscopy rather than barium study[10] if radiographs are negative. Computed tomographic scans, ultrasonography and magnetic resonance imaging also have been used to identify radiolucent FBs.[11] Endoscopic impaction is the preferred method of retrieval.[12] In some cases, it can be pulled out using a McGill's forceps during direct laryangoscopy.[13] Endoscopic removal of the impacted stone can result in oesophageal tear if the FB is taken out forcibly. If the endoscopist is not able to pull out the FB, he may try to push it down to the stomach where it is expected to pass out per rectally with bowel movement. However, this maneuver may not be complication-free. As a general rule, the longer the duration of impaction, greater is the oedema and greater are the chances of endoscopic failure. In cases of large and impacted FB, open surgery by cervical exploration is preferred over endoscopic retrieval. The oesophagus is preferably opened by a longitudinal incision over the oesophagus because the FB is mostly oval and lies along the long axis of the oesophagus. Longitudinal incision also has lesser chances of stricture formation, although a stenosis is still a probability.

The literature presents very few cases of FB oesophagus in neonates, namely an impacted ornament ring in a 3-day-old,[14] a rubber pellet in a 2-month-old baby[15] and a decorative button in a 7-week-old baby. The first two of these were removed endoscopically whereas the third one was removed surgically. Surgical removal otherwise has been performed predominantly in chronic cases.[16] Oesophageal surgical extraction has rarely been reported in a neonate.

Our case is unusual as the patient was only 25 days old at presentation. Such cases are a form of child abuse or neglect. In our case, as it was given by her sibling, it is one form of neglect where labourer parents leave the smaller babies with their elder siblings. Nothing much can be done to avoid this as poverty is the root cause. The clinical value of the present case lies in

the management aspect, where the surgeon should not hesitate for esophagotomy in this era of minimally invasive surgery after all other attempts have failed. This case re-affirms the importance of open surgery in cases of impacted oesophageal FBs.

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