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Case Report

Pencil spring ingestion in a neonate- a rare occurrence with cecal perforation: A case report

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ABSTRACT

Background: Foreign body (FB) ingestion is relatively common in the pediatric population. However, it is a rare occurrence in neonates and intestinal perforation due to ingested FB is once in a blue moon event.

Case Presentation: Here we present a case of accidental FB ingestion by a neonate leading to a rare complication. The patient was received in vitally unstable condition and exploratory laparotomy was performed after initial resuscitation. The intra-operative findings included perforation of the cecum, which was repaired with a covering stoma. The postoperative period was uneventful, and stoma was reversed later.

Conclusion: Foreign body ingestion is possible in neonates, though very rare, and can lead to fatal complications If not detected and treated in time.

Keywords: Foreign body, Pencil spring, Neonate, Cecal perforation

INTRODUCTION

While most cases presenting in emergency with ingestion of FB involve age groups between 6 months to 3 years, neonates are rarely seen with ingestion of anything unusual.[1] In children, most common FBs ingested are coins. A vast majority of these ingested FBs pass spontaneously without causing any symptoms while few need removal via endoscopic or surgical procedures. Very few cases of neonates with foreign body ingestion are reported in literature.[1,2] Till now no case of pencil spring ingestion in neonates has been reported, to the best of authors' knowledge. Herein, we report a neonate with pencil spring ingestion leading to cecal perforation.

CASE REPORT

A male neonate at 25th day of life was brought to our neonatal emergency department with complaint of excessive cry and reluctance to feed for 4 days. He was initially taken to a private hospital where his Plain X-ray abdomen was obtained which showed a metallic spring in right lower abdomen (Fig.1). So, he was referred to our hospital for further management. On arrival history was probed from the mother who did not witness FB ingestion by the baby. The baby lived in joint family with no child in family older than 3 years. On examination, the patient was markedly irritable, dehydrated with distended tense abdomen. The patient was vitally unstable with tachycardia (155 beats/min), blood pressure was 70/40mmHg, fever and poor peripheral perfusion. Resuscitation with IV fluids and antibiotics done. After stabilization, the repeated X-Ray abdomen showed FB at same location in comparison to initial X-ray film.

After necessary laboratory investigations, patient was taken to operation room for surgical exploration. On exploration patient had gross fecal contamination and to our surprise, half of the spring had passed through ileocecal junction and then got struck in lateral wall of

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cecum causing erosion and perforation of the cecum (Fig.2A). FB was evacuated (Fig.2B) via the perforation site; edges refreshed, and repair of cecum performed with proximal ileostomy. Patient was kept in neonatal ICU, allowed oral feed on 3rd post-operative day and was sent home after parents were counseled regarding follow-up. Ileostomy was closed after 2 months and baby was discharged without any peri-operative complication.

Figure 1: X-ray abdomen showing a metallic spring in the right iliac fossa region.

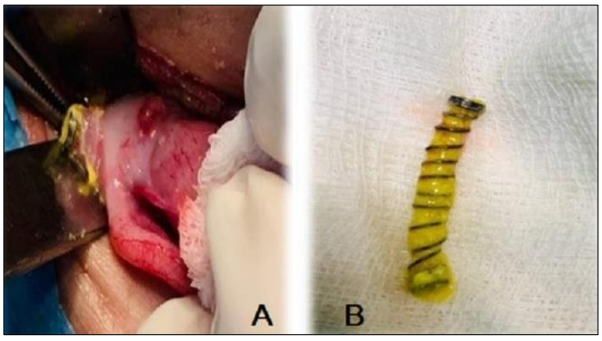

Figure 2: A) Metallic spring being retrieved from perforated cecum. B) After retrieval.

DISCUSSION

Due to explorative and intriguing complexion children tend to wander around and put everything into mouth to investigate nature.[3,4] This in turn led to many children presenting in emergency department with foreign body ingestion. Mostly the ingestion of foreign body is accidental, happened while playing in home. Generally, there is lack of any witness to testify the happening of unfortunate event. Predominantly affected age group is toddlers and the preschoolers, between 6 months to 3 years of age. Occurrence of foreign body ingestion in neonates is a rare finding and only few cases have been reported in literature, but none of them led to complication like gut perforation as found in our case.[5,6] Usually it is experienced in context of setting where it has been introduced into oral cavity playfully by an elder sibling or a homicidal attempt to get rid of unwanted female child.[2]

Majority of foreign bodies will be asymptomatic and pass smoothly through entire gastrointestinal without causing any harm. However, despite being symptomless in most cases, foreign body ingestion is associated with significant morbidity and mortality.[7] In neonates, most of FBs lodge in upper esophagus and cause clinical presentation ranging from dysphagia and drooling to gaging and choking in most severe cases. Once the object is ingested, it is likely to be obstructed at one of the following; esophago-gastric junction, pylorus, c-loop of duodenum, duodeno-jejunal junction and ileocecal junction, where it might act as obstructing barrier. Prompt diagnosis should be initiated accordingly once the history and clinical examination suggest FB ingestion. Older children can describe the history of FB ingestion which may not be the case in neonates or small infants where a witness can help in early diagnosis. In children presenting with unexplained symptoms of gastrointestinal or respiratory system, a high index of suspicion should be of FB ingestion should be made. Usual presentation is chocking and gaging if FB is lodged in esophagus. Small bowel manifestations like obstruction, fistula formation and perforation are uncommon event accounting for less than 1% cases, which ultimately need surgical intervention.[8]

Bowel perforation is mostly due to sharp objects, while a very few cases of perforation due to blunt objects are recorded, as in our case a blunt object like spring led to perforation and was found stuck in lateral wall of cecum with a collection in the right iliac fossa.[9] Perforation due to blunt objects is likely a consequence of impaction for a time of 24 to 48 hours and causing erosion of bowel wall or chemical necrosis; and secondary to the volvulus produced by the FBs.[10,11]

Our patient presented with signs of peritonitis and vital instability, so we proceeded with exploration and repair of perforation with proximal stoma formation, which was reversed later. Management of ingested foreign body depends upon clinical condition of patient and nature of object and its physical properties. Thorough history and physical examination are of prime importance in neonatal foreign body ingestion and most of FB are managed expectantly. Few of them needing endoscopic or surgical removal as needed according to location and clinical presentation. [12]

To conclude, we can say despite being a rare accident, neonatal foreign bodies can have life-threatening consequences. Primary step in management is counseling of parents and caretakers regarding preventing measures and precautions to be taken when leaving with elder siblings. Prompt steps should be taken in diagnosis and management to avoid dangerous outcomes of these mishaps.

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