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Case Report

Endoscopic Management of a Distal Ileal Foreign Body in a Child with Developmental Delay – A Case Report

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Abstract:

Background: Foreign body ingestion is a common problem in the paediatric age group, with most cases involving the upper gastrointestinal tract. Foreign bodies that pass through the oesophagus can be safely observed. Impaction in the bowel can cause intestinal obstruction or perforation. Complicated foreign bodies can be retrieved either surgically or endoscopically.

***Case*:** A 4-year-and-6-month-old girl with multiple medical conditions presented four days after the ingestion of two foreign bodies (Hair pins). The child was irritable and experienced a vague lower abdominal pain, which was more pronounced in the right iliac fossa (RIF). With conservative management and a rectal enema one foreign body passed with stool. Over the next day she exhibited increasing distress and worsening RIF tenderness. Colonoscopy without air insufflation revealed an impacted foreign body in the distal ileum about 10cm from the ileocecal valve. Successful retrieval improved her clinical status, and she was discharged two days later.

***Discussion*:** Blunt foreign bodies that passed beyond the duodenum require intervention only if they fail to pass in a standard time frame or if a complication arises. Initial conservative management was attempted as she did not have features of generalized peritonism. However, colonoscopy was performed due to worsening distress and localized peritoneal signs, especially given her complex medical background. The procedure was conducted without gas insufflation to avoid pneumoperitoneum in the event of a potential intestinal perforation. Successful retrieval alleviated her clinical symptoms.

Conclusion: Colonoscopy with ileal intubation is an effective method for retrieving impacted distal ileal foreign bodies in patients with localized peritoneal signs.

Keywords: colonoscopy, foreign body, ileal intubation, peritonism

Introduction

Foreign body ingestion is a common problem in the paediatric age group. The upper third of the oesophagus is the most common site of impaction.1 Most of the foreign bodies that pass through the oesophagus can be safely observed.[1, 2] Clinical presentation and examination findings may suggest complications related to a foreign body, such as features of intestinal obstruction or perforation.[3]

Evidence of complications or failure to pass the foreign body within an adequate time are indications for retrieval, either endoscopically or surgically.[3-6] In the literature, only a few cases have been documented on the colonoscopic retrieval of ingested foreign bodies from the ileocecal valve. However, there are no reported cases on the endoscopic retrieval of foreign bodies from the distal ileum particularly in the presence of localized peritonism.

Additionally, in previously reported cases the children were previously well, or their past medical history was not mentioned. In this case we report a 4-year-and 6-month-old girl with multiple medical conditions who presented with an ingested foreign body impacted in the distal ileum, accompanied by features of localized peritonism and was successfully retrieved via colonoscopy and ileal intubation.

Case

A 4-year-and-6-month-old girl was transferred to our tertiary care facility from a nearby base hospital for further management after ingesting two foreign bodies (Hair pins) four days earlier, which she failed to pass. She had been diagnosed with microcephaly and global developmental delay since early childhood, but her family had defaulted on follow-up for the past year due to financial constraints. She was able to walk with a limp for short distances and could vocalize one to two words at her current age. However, over the past two days, she had completely refused to walk or talk to her mother.

She did not have a fever, and her hemodynamic parameters were within the normal range. She had a vague lower abdominal tenderness, which was more prominent in the right iliac fossa (RIF). Blood investigations revealed no abnormalities, and the initial X-ray showed two foreign objects in the lower abdomen **(Figure 1)**. A rectal enema was administered, and one foreign body **(Figure 1-Green arrow)** was expelled with stools.

Over the next day she exhibited increasing distress and refused to eat. Her abdominal examination showed a slight increase in tenderness over RIF, though her hemodynamic parameters remained stable.

Colonoscopy with ileal intubation was performed without gas insufflation, and a foreign body was found impacted in the distal ileum about 10 cm from the ileocecal valve **(Figure 2)**. It was successfully retrieved using a wide-angle colonoscopic biopsy forceps **(Figure 3)**. Her clinical status improved over the next two days, and she was discharged on the second post procedure day. She returned two weeks later with complete recovery, and necessary arrangements were made to prevent future incidents and ensure further medical follow-up.

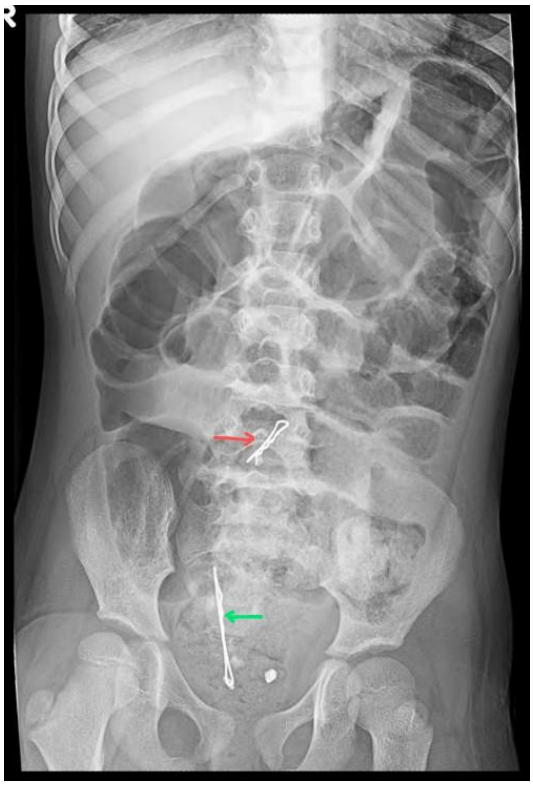

Figure 1. X-ray after admission showing two foreign bodies

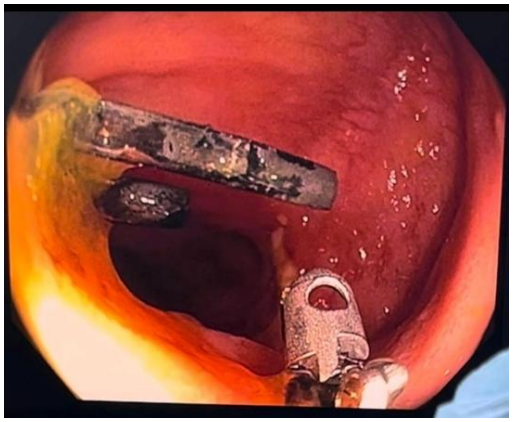

Figure 2. Endoscopic appearance of the impacted foreign body in the distal ileum

Figure 3. Foreign body after retrieval

Discussion

Endoscopic removal of upper gastrointestinal foreign bodies is a well-established and long-practiced technique.[7, 8] However, colonoscopy for removal of impacted foreign bodies is less commonly performed, as many objects that pass through the oesophagus are likely to traverse the bowel without intervention.[1-3] Blunt, small objects beyond the duodenum are extracted only if complications arise or if they fail to pass after an adequate time for spontaneous passage.[3]

In this case the patient was transferred to a tertiary care facility to access paediatric surgical expertise, as she exhibited some signs of localized peritonism. At our institute, initial management was conservative, as there were no obvious signs of peritonism, and she remained hemodynamically stable. A rectal enema was administered to clear distal bowel and relieve a possible distal obstruction.[9] Following the enema, one foreign body was expelled with stools.

On the second day at our institute, she began showing increased distress and worsening RIF tenderness. However, there was still no evidence of generalized peritonism. On the other hand, assessing this child was particularly challenging due to her preexisting medical conditions, and her overall developmental age was closer to one year.[10]

At this stage, a computed tomography (CT) scan could have been ordered to diagnose an intestinal perforation.[11] However, identifying a small perforation in close proximity to a metallic foreign body would have been difficult due to imaging artifacts, and a negative result could have given a false sense of reassurance.[12]

Colonoscopy was preferred over laparoscopy as there was no generalized peritonitis, and the foreign body was located near the RIF, suggesting proximity to the cecum **(Figure 1-Red arrow**). Colonoscopy was performed without gas insufflation, as high-pressure gas could have resulted in pneumoperitoneum if a perforation was present.[13] 13 Successful retrieval of the foreign body led to improvement in her clinical condition.

In retrospect, the vague tenderness in the right lower abdomen may have resulted from foreign body impaction causing local irritation of the bowel and peritoneum. A tiny perforation which sealed off completely is another possibility.

Conclusion

Colonoscopy with ileal intubation is a preferable option to retrieve foreign objects impacted in the distal ileum. Mild localized tenderness is not always indicative of perforation or peritonitis. Care should be taken to avoid excessive gas insufflation to prevent potential catastrophic events.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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