Ingested Sharp Foreign Body in Children: When to Intervene?

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Introduction:
Accidental foreign body (FB) ingestion is a common presentation to the Emergency Department especially in the pre-school age group. Sharp FB comprises about 10% of all foreign body ingested in children. Generally, sharp FB in the gastro duodenum removed by endoscopy. Surgery is recommended for removal of sharp object beyond the Ligament of Treitz. However, in selected cases there is a role for expectant management provided there is availability for frequent assessment, both clinically and radiologically. We present a case report of an accidental ingestion of a head pin which was successfully treated conserve.

Case Summary:
A 6 years old girl was brought in by her parents to the Emergency Department in a district hospital, 20 hours after she accidentally swallowed a head pin. The girl was well initially, then presented complaining of per umbilical pain which was dull, and persisted till following morning. The child didnot have fever, vomiting, and abdominal distension or passed blood per rectum. She did not open her bowel since the accident. She was also having upper respiratory tract infection symptoms of four days duration. On examination, the child was active and well hydrated. The abdomen was non-tender and no sign of peritonitis.

Complete blood count was unremarkable. Plain radiograph showed a 4cm radiopaque linear foreign body (FB) in the right lower quadrant (Figure 1). There was no pneumoperitoneum. A repeat plain radiograph showed the object migrated to the distal large bowel at 30 and 40 hours of ingestion respectively (Figure 2 & 3).

The patient was admitted for observation and planned for expectant management. In the hospital, she was active. There was no fever, vomiting or per rectal bleeding. She evacuated the sharp FB per rectally along with stools on the third day of admission. The patient was discharged home on the same day.

Discussion:
The majority of ingested FB involves children younger than 5-years and 98% of cases are accidental1. However, unusual ingested FB has been reported as a presentation of non-accidental mechanism. Kramer et al classified the ingested
FBs into 6 groups: Coins/ blunt object, button batteries, magnets, sharp/ pointed objects, food impaction and superabsorbent objects. Ingested sharp objects makes up about 10% of cases and includes fish bone, chicken bone, safety pins, needles, nails and sharp pointed household items.

A plain radiograph is recommended in all suspected sharp FB ingestion. X-rays detect up to 100% of metallic objects, 43-86% of glass and 26% of fish bone. In asymptomatic patients with radiolucent sharp FB, further imaging such as computed tomography (CT) scan, Magnetic resonance imaging (MRI) or contrast studies may help in diagnosis. Urgent endoscopic evaluation and removal should be considered in symptomatic patients with suspicion of sharp FB impacted in gastro duodenum.

Kay et al reported complication rates up to 35% from ingestion of sharp FB. In comparison, accidental ingestion of blunt FB is associated with 1% rate of complications. Single straight pin is an exception and found to have a relative benign course. Complications of sharp FB ingestion include mucosal erosion, perforation, extra-luminal migration and aorta-esophageal fistula. Up to 100% of foreign body which has passed beyond the ligament of Treitz may pass out spontaneously. We decided to admit for expectant management with serial examinations and x-rays. Patient passed the sharp FB spontaneously on the third day without any laxatives. Kramer et al suggested surgical removal of sharp FB if there is no spontaneous passage after 3 days or if patient developed early symptoms.

Conclusion:
Expectant management is an option in selected cases of pediatric sharp FB ingestion depending on type of FB, location, duration and absence of symptoms. Patient should be admitted and monitored in a Centre with pediatric endoscopy and surgical expertise. Endoscopic removal is recommended in all sharp FBs impacted in the gastro duodenum. For objects that have passed beyond the Ligament of Treitz, but did not pass within three days or developed symptoms are indications for surgery.

References:


