

## Sharp Foreign Body in the Gastro-Intestine in Children

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### Abstract

Children with accidental ingestion of foreign body need careful observation and evaluation but ingested sharp and long objects deserve more. Perforation or obstruction are troublesome in children with ingested sharp / pointed or relatively long objects which are too long to traverse the pylorus. The surgeons often found themselves on the horns of a dilemma, whether to wait and watch for spontaneous expulsion or to go for the early intervention. Here is a case report of a 7 year old boy with long sharp foreign body ingestion who was managed conservatively in our institute.

**Keywords:** Children; Foreign body; Sharp; Endoscopy; Conservative; Management

### Introduction

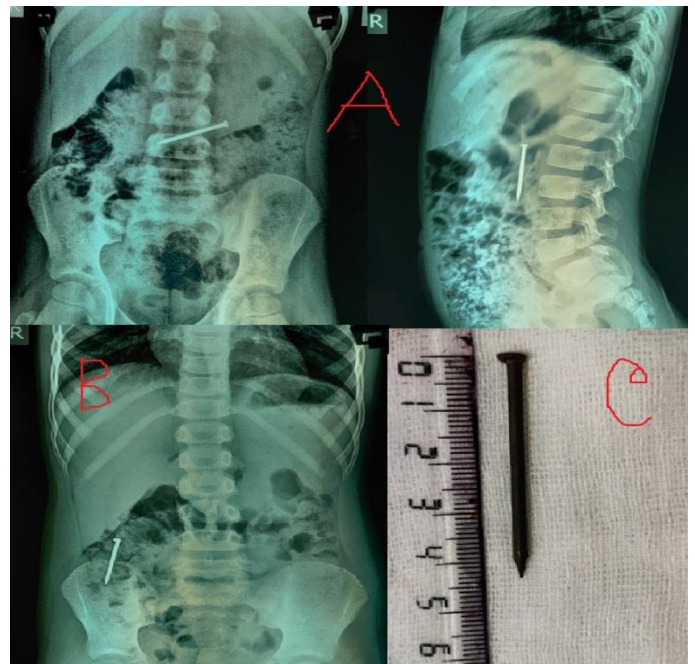
Foreign body (FB) ingestion is one of the common problems in male than in female child between the ages six months and six years. FBs are blunt in majority of cases (coins or button cells) but, sharp / pointed or long and chemically active objects ingestion are reported [1]. Fish bones, small pins or iron nails get stuck in posterior pharynx or upper esophagus. However, beyond esophagus, impaction occurs within the gastrointestinal tract (GIT) in patients with underlying GI tract abnormalities or who had previous GI surgeries. Asymptomatic patients with radiopaque small metallic objects ingestion, can be managed conservatively for spontaneous passage through per naturalis. But symptomatic patients should be referred to a Pediatric Gastroenterologist or Pediatric Surgeon, for endoscopy or surgical intervention especially who have had surgery or with motility issues and known or suspected GI tract abnormalities [2]. Here we report a case of ingested large sharp metallic nail which was managed conservatively.

**Received date:** 11 September 2020; **Accepted date:** 16 September 2020; **Published date:** 22 September 2020

**Citation:** Priyadarshini P, Chakraborty P, Halder P, Chatterjee A (2020). Sharp Foreign Body in the Gastro-Intestine in Children. SunText Rev Pediatr Care 1(1): 105.

**DOI:** <https://doi.org/10.51737/2766-5216.2020.005>

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**Figure 1:** Straight X-Ray abdomen AP and lateral view at the time of initial presentation in OPD (A), AP view X-Ray abdomen after 30 hours of admission (B) and picture of the iron nail after passing with stool after 40 hours of admission (C).

## Case Study

A 7yr old boy presented at our outpatient department (OPD) with pain and discomfort in throat following ingestion of sharp iron nail 24 hours back. Immediate X ray of chest and abdomen showed 4.2 cm long radiopaque FB in upper abdomen (Figure 1). Patient was otherwise asymptomatic and vital signs were normal. An upper G.I. endoscopy was advocated to locate this long sharp nail in the stomach and retrieval if feasible. But, it was not found up to the 2nd part of duodenum. Patient was admitted and put for close observation and planned for serial x-ray of abdomen if he remained asymptomatic. Pulse, B.P, was monitored hourly with abdominal examinations for development of muscle guarding, rigidity or rebound tenderness along with onset of bilious vomiting or abdominal distension. However, the child was allowed liquid orally with an IV access. After 40 hours of admission, the patient passed the sharp nail along with stool. There was no history of bleeding per rectum. The vital signs, routine blood reports were normal throughout the stay. Patient was discharged on very next day in stable condition after a repeat x ray (post FB passage).

## Discussion

Toddlers and preschoolers explore the world with their mouths and fine and gross motor skills in them are in developing stage. Thus, foreign body ingestions are common in this age group. Older children, most commonly boys, also ingest foreign bodies, typically due to poor situational decision-making. Though most of the ingested FBs are blunt and rounded (coin, toys, magnets and batteries) and are expelled spontaneously through natural passage, some FBs are sharp / pointed and harmful due to chemically not inert (batteries and magnets) which need to be removed at the earliest [3]. The use of a flexible endoscopy is safe and effective in these cases, with a high success rate, for the effective extraction of FBs from the upper gastrointestinal tract of a child [4,5]. Size and location of a FB greatly influences its management plan. Large and irregular/sharp objects may get impacted causing obstruction and even perforation in its passage through GIT which may need endoscopic removal or surgical intervention. But long and sharp object with one blunt end usually tends to align itself longitudinally due to peristalsis with its blunt end as leading part with sharp tip trailing behind. These FBs usually passes spontaneously if observed closely along with radiographic monitoring. There is also one school of thought that at least 72 hours are to be noted for spontaneous expulsion if patient remains asymptomatic [6,7]. Surgeons need to have careful decision making before jumping to any early operative interventions [8]. In our case a sharp nail of 4.2 cm in the GIT of a 7 yrs. old child was

really worrisome because there was every chance of gut perforation. Initially we did x ray and an upper G.I. endoscopy to locate and remove if it got stuck in stomach. But it passed downwards. So we choose to wait and admit the patient and kept him under close observation as the patient was asymptomatic. The result was as expected, FB passed with stool and thus we could avoid an exploratory laparotomy. Yeh et al. documented that once if a FB passes the duodenal curve, it is likely to be passed through the anus. However, larger FB may take longer transit time [9].

## Conclusion

As FB ingestion and its complications are common at pediatric emergency departments, management of the patient also includes proper counseling of parents or caretakers. There is no harm in observation in asymptomatic case even if the FB is relatively large and pointed .It prevents the morbidity and mortality of an unwanted laparotomy in young patients, however small it may be.

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