

Unnoticed Foreign Body (Metallic Hair Clip) Ingestion in An 18 Month Old Child: A Case Report

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Abstract

Accidental foreign body ingestion is common in the pediatric age group particularly between 6 months and 5 years. Most ingested foreign bodies pass easily through the esophagus, into the stomach, and are expelled from the body without complications. However, endoscopic removal will require only 10% - 20% of cases to avoid complications. We present the endoscopic removal of a metallic hair clip in the duodenum of an 18 month old child that was unnoticed initially and diagnosed incidentally.

Keywords: Foreign body (FB), Gastroesophageal (GE), Gastrointestinal (GI), metallic hair clip, endoscopic removal.

Introduction

Ingestion of foreign body is a common problem in childhood.¹ It occurs more commonly in children aged between six months and five years.^{2,3} Normal tendency of Children to explore everything by inserting objects in their mouths; some of these items can be swallowed. Foreign body ingestion is also a significant cause of parental anxiety.⁴ By entering into the respiratory and gastrointestinal systems, foreign bodies cause severe morbidity and mortality. Therefore, emergency evaluation should be needed. Approximately 40% of foreign body ingestion in children occurs without any witness, and in any case, they remain asymptomatic.⁵ It causes various symptoms such as vomiting, dyspnea, wheezing, restlessness, abdominal distension, and abdominal pain. Foreign bodies can be stuck at the cricopharyngeal area, the middle third of the esophagus, lower esophageal sphincter, at the pylorus, or the ileocaecal valve.⁶ The introduction of the use of endoscopic interventions in

the pediatric population allows the possibility of non-surgical removal. Endoscopic removal is required in 10-20% and surgical intervention in <1% of cases.⁷⁻⁹ Several endoscopic retrieval devices are available for the endoscopic removal of foreign bodies. For successful foreign body removal, expert endoscopists and the availability of these retrieval devices both are important. We, therefore, present a case of a metallic hair clip found in the duodenum of an 18 months old boy.

Case report

An 18 months old boy was admitted to a hospital of Dhaka with the complaints of fever and cough for 5 days and diagnosed as a case of respiratory tract infection. During the investigation, a foreign body was found in the abdomen in the chest x-ray. He was treated with prokinetic drugs and laxatives but a repeat x-ray [Fig.-1], 5 days later showed a foreign body in the same place. The decision was taken of endoscopic removal of foreign body and patient was referred to BSMMU, Dhaka. On examination, the patient was well alert, vitally stable, the abdomen was soft, non-tender, bowel sound was present and no abnormality was detected in other systemic examinations. The patient was advised to keep nothing per oral for 6 hours. Informed written parental consent for endoscopy was obtained. During the procedure, the patient was in the left lateral position. With a plastic dental bite guard held firmly in the patient's mouth by the assisting doctor, the endoscope was gently introduced

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Fig.-1: X-ray abdomen showing foreign body in abdomen

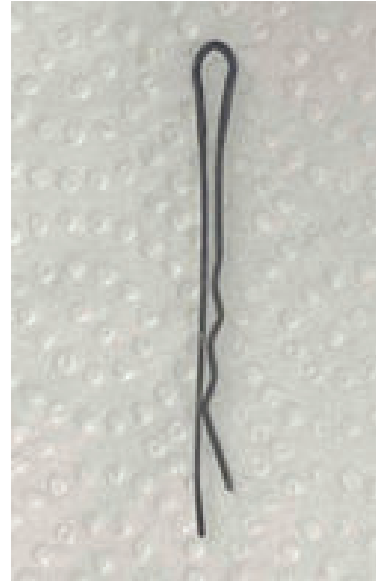


Fig.-4: Removed metallic hair clip

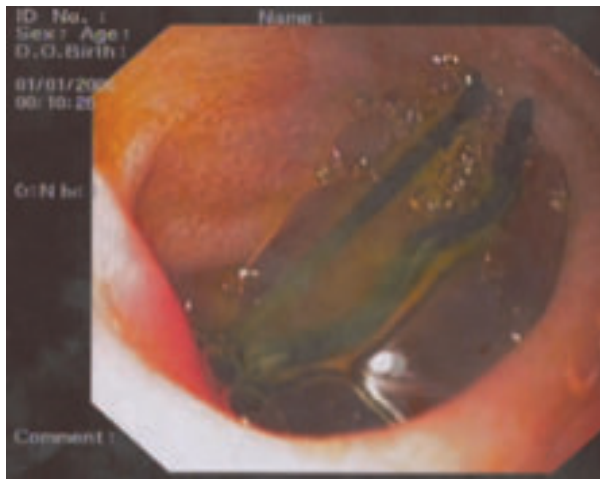


Fig.-2: Foreign body stuck in 2nd part of duodenum

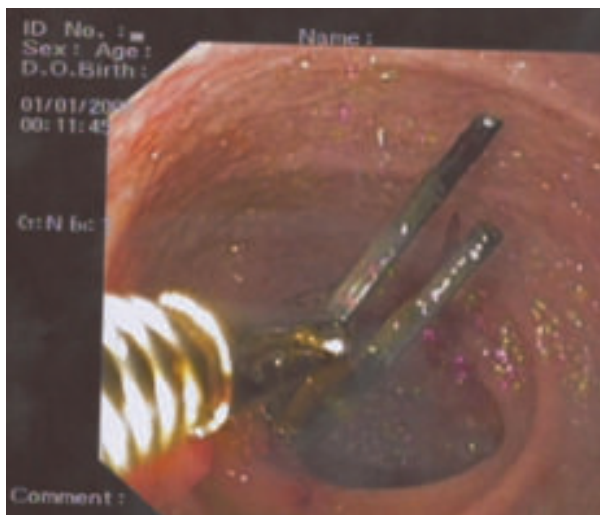


Fig.-3: Foreign body with one sharp end hold by alligator forceps



under vision into the oropharynx to examine the esophagus, stomach, and duodenum of the patient. Endoscopy showed a foreign body (metallic hair clip) was stuck transversely in the 2nd part of the duodenum [Fig.-2]. No evidence of duodenal ulceration or perforation was noted. The clip was gripped with an alligator forcep, but slipped. Then the clip was gripped by foreign body snare, and an enblock was maintained with the sharp-pointed free ends trailing back into the stomach with a gradual and cautious pull of the scope together with the foreign body snare [Fig.-3]. Following that, with continuous insufflation, the endoscope together with the FB snare holding the metallic hair clip was carefully maneuvered through the gastroesophageal junction into the esophagus and out with the sharp ends trailing. In the initial effort, the metallic hair clip was successfully retrieved [Fig.-4]. The endoscope was reintroduced to check for damage to the esophageal, stomach and duodenal mucosa caused by the extraction, but no new injuries were seen. The patient was subsequently discharged having been followed up for few hours without reporting any complaint.

Discussion

Accidental ingestion of foreign bodies is very common in children. The most common foreign body ingested by children are coins; others are toys, toy parts, magnets, batteries, safety pins, screws, marbles, bones, and food boluses.^{10,11} Foreign bodies with a soft end do not create a problem. But the ones with sharp edges lead to serious problems. In this case, the patient ingested a metallic hair clip having one sharp end [Fig.-3]. Affected children present various symptoms, such as drooling, hyperventilation, dysphagia, odynophagia, and refusal of feeds. Some patients remain asymptomatic for weeks like this case. The pylorus, duodenal curve, and the ileocaecal valve are the other area of possible FB impaction when children remain initially asymptomatic and may later present with intestinal perforation, or fistula formation.¹

The esophagus is the narrowest part of the GI tract and it is the commonest site of foreign body impaction. Within the esophagus, the foreign body may stuck in the thoracic inlet, the aortic arch area, or the gastroesophageal (GE) junction. The thoracic inlet followed by the GE junction and then the aortic arch is the commonest site of impaction.¹⁰ Foreign bodies more than 2 cm in diameter are less likely to pass the pylorus, and longer than 6 cm may become trapped

at either the pylorus or the duodenal curve.¹⁰ Once the object passes into the stomach, the chance of impaction is very small. Very unlikely, sharp or large objects impacted in the pylorus, duodenum, cecum, appendix, rectum, or a location of congenital or acquired narrowing within the GI tract.¹² In this case foreign body was stuck transversely in the 2nd part of the duodenum [Fig.-2]. Endoscopic removal of ingested foreign body (FB) by a skilled endoscopist is a safe and reliable procedure, with a high success rate and low morbidity and mortality.¹³ A study that includes 2 large series reports found no deaths in 852 adults and 1 death in 2206 children.¹⁴ The most appropriate removal devices to be used are FB removal forceps; such as a rat-tooth, or an alligator forceps, because of their large jaws and firm grip, together with a latex rubber hood or an over tube to protect the esophageal and pharyngeal mucosa from injury.⁶ We used a foreign body removal snare. No complication was recorded during follow-up visits, which were matched with a retrospective study by Kramer et al¹⁵. In that study, authors found that endoscopic FB removal was successful in 96.9% of cases, and only 3.1% of cases surgical removal was required. The complication was recorded in 6.9% of cases, in the form of mucosal laceration and suspected perforation, all of which were managed conservatively.

Conclusion

An expert endoscopist can efficiently treat FB ingestion in the upper GI in children by using pediatric and ancillary endoscopic equipment. However, the type of ingested FB, the age of the children, predicted difficulties and emergencies must all be considered.

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