A CASE REPORT ON ENDOSCOPIC REMOVAL OF INGESTED OPEN SAFETY PIN

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ABSTRACT

Safety pin ingestion is a problem in gastrointestinal practice. Non - organic foreign bodies like needle, pin, coin and button are commonly ingested foreign bodies among the pediatric population. It may lead to severe morbidity and mortality. Most of the ingested foreign bodies are passed spontaneously without any endoscopic and surgical removal. Remaining foreign bodies can be retrieved and removed endoscopically or surgically.

KEYWORDS

Impacted open safety pin, endoscopic removal

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INTRODUCTION

Foreign bodies ingestion is a common problem in gastrointestinal practice, especially among the pediatric population and adult. Accidental ingestion of foreign bodies is more common in children in comparison of adult. The symptoms like odynophagia, dysphagia and chest pain would indicate esophageal foreign body. When foreign body passed beyond esophagus patient may not report any symptoms.[2] Most ingested foreign bodies pass spontaneously through GI tract without requiring endoscopic or surgical intervention. However, those that do not pass can be retrieved and removed endoscopically or surgically.[3]

Emergent therapeutic endoscopy is advocated for by the ESGE (European Society of Gastrointestinal Endoscopy) within 2 hours but not beyond 6 hours for cases like foreign bodies that cause complete esophageal obstruction, sharp-pointed objects or batteries stuck in esophagus. Other esophageal foreign objects without complete obstruction, endoscopy should be done within 24 hours. Similarly, for sharp pointed objects, magnets, batteries and large/long ones among others in the stomach, endoscopy should be performed within 24 hours as per guidelines from ESGE. Medium size blunt foreign bodies in the stomach required nonurgent endoscopy within 72 hours.[4]

CASE REPORT

A 13-year-old girl was referred from children hospital (Kanti Children Hospital, Kathmandu, Nepal), presented with complaints of mild epigastric pain without dysphagia and vomiting or hematemesis. She had history of accidental ingestion of safety pin two days back.

On physical examination she was hemodynamically stable, thin built and afebrile. Abdominal examination revealed mild tenderness in epigastric region.

Her blood examination was normal. Chest x-ray was also normal. She underwent upper gastrointestinal endoscopy for further evaluation. Written consent was taken. Informed about procedure, complications and known risk of procedure to parents and family members.

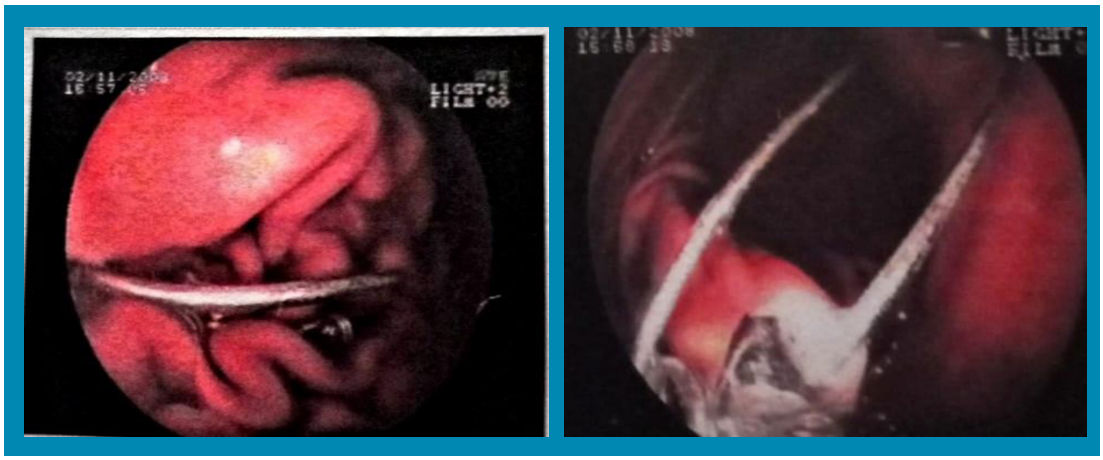

Fig. 1, 2: Impacted safety pin in stomach

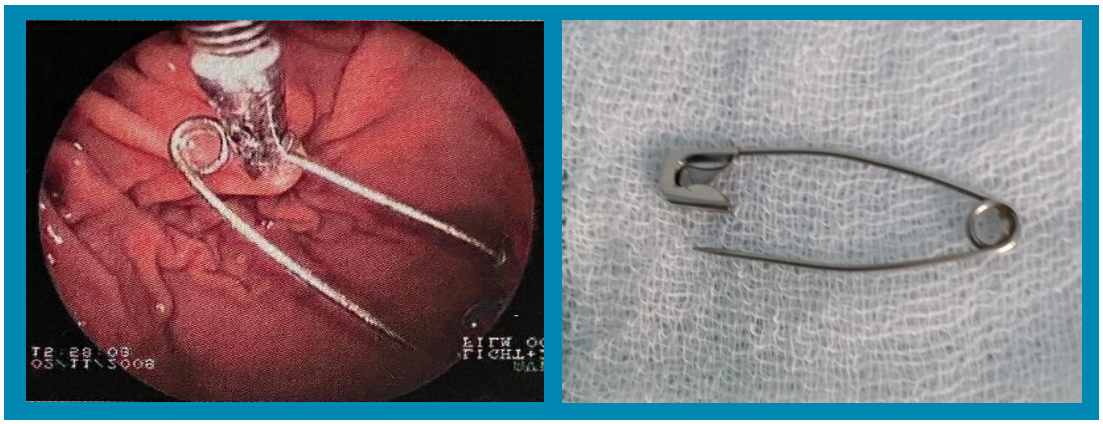

Fig. 3, 4: Removal of safety pin with use of crocodile forcep

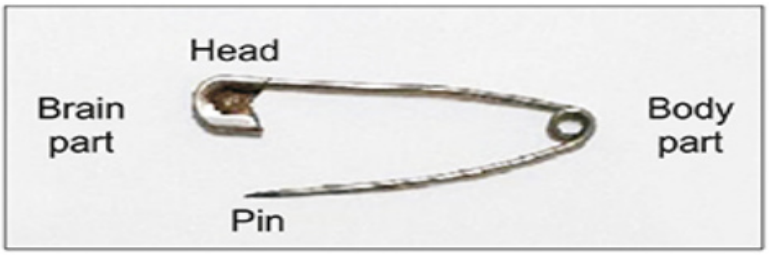

Fig. 5: Different parts of a safety pin

Upper gastrointestinal endoscopy was planned to remove foreign body and underwent forward viewing gastrointestinal endoscopy for further evaluation. The open safety pin was impacted in the body of stomach. First of all the sharp part was catched by crocodile forcep. The open part was kept reversed. The scope was withdrawn successfully with retrieval of body part of open safety pin. Crocodile forcep was used for removal of foreign body. The open safety was removed without injury to scope and mucosa of the patient. Re-endoscopy was done after removing safety pin to look injury. The patient was kept in observation and discharged the next day.

DISCUSSION

Foreign body lodge most commonly in esophagus. Once a foreign body reaches the stomach, it is less likely to be associated with complications.[5] Most of the foreign bodies are passed spontaneously without any complication in 80-90%. Endoscopic removal is required in 10-20% of cases. Only 1% of cases require open surgery secondary to complications.[1]

In a retrospective study done in Bir Hospital, Kathmandu, Nepal over 12 year duration, most common site of foreign body was esopaghus. In 86.55 % patient had food like chicken bone, meat,fish bone, vegetable and fruit seed as foreign body.[6]

In a case series by Demiroren, safety pins were observed in the stomach (25%), esophagus (25%),duodenal bulb (20%), and second part of the duodenum (10%) but were not observed in 20% of the cases. Safety pins were removed using endoscopy in 15 cases (75%). Surgical intervention was not needed for any patient. No complications such as perforation or deaths developed.[7]

Sharp or pointed objects, long objects (>4–5 cm in infants and young children, >6–10 cm in older children), or large and wide objects (>2 cm in diameter in infants and young children, or >2.5 cm in diameter in older children) located in the stomach required endoscopic removal.[1] Even though patient presented to our center after two days, the impacted safety pin was removed uneventfully with front viewing endoscope and crocodile forcep.

In conclusion, the impacted open safety pin in stomach can be safely removed endoscopically with various forceps and accessories without any complications.

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REFERENCES

1. Lee JH. Foreign body ingestion in children. *Clin Endoscop* 2018; 51: 129–36.
2. Elizabeth TJ and Clegg D. Foreign bodies and bowel obstructions in intestinal obstructions (ed. Victorovich Garbuzenko, D.) (IntechOpen, 2020)
3. Lee WJ, Lu YH, Vong SC and Lin TY. Foreign body in the abdomen. *Int J Emerg Med* 2010; 3: 139.
4. Birk M, Bauerfeind, Deprez PH *et al.* Removal of foreign bodies in the upper gastrointestinal tract in adults: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline. *Endoscopy* 2016; 48: 489–96.
5. Conners GP and Mohseni M. Pediatric foreign body ingestion in StatPearls (StatPearls Publishing, Treasure Island (FL), 2024).
6. Shrestha R, Baral S, Sharma M, Thapa J, Khadka D. Successful endoscopic management of suspected foreign bodies in upper gastrointestinal tract among patients undergoing upper gastrointestinal endoscopy in a tertiary care hospital: a descriptive cross-sectional study. *J Nepal Med Assoc* 2021; 59: 683-7.
7. Demiroren K. A case series of ingested open safety pin removal using a proposed endoscopic removal technique algorithm. *Pediatr Gastroenterol Hepatol Nutr* 2019; 22: 441.