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Enteroscopy: Can it be used for Removal of Sharp Foreign Body in Small Intestine

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Abstract: Accidentally ingested sharp objects can cause severe complications and should be removed promptly. We describe the case of a 16 year old girl who accidentally a swallowed sharp-pointed hairpin that had reached in her jejunum. Push enteroscopy was done which revealed impacted hair pin with a plastic leaf at one of its end. Hairpin was removed after surgical exploration.

Keywords: Push Enteroscopy, Double balloon endoscopy, Endoscopic retrieval of sharp objects.

INTRODUCTION

Most ingested foreign bodies (80%-90%) pass spontaneously. However, approximately 10%-20% of foreign bodies necessitate an endoscopic procedure, whereas, less than 1% requires operation [1]. Endoscopic removal of swallowed objects from the small intestine without complications is challenging due to the narrow lumen and long length of this organ. We describe a recently known method of removal of foreign body in the small bowel through push or double balloon enteroscopy. In our case, due to the impacted nature of the foreign body, exploratory laparotomy had to be done to extract the foreign body.

CASE REPORT

A 16 year old girl presented with a 7 hour old history of accidental ingestion of a hair pin. The hair pin was 7 cms long with a Plastic leaf of 1 cm diameter at one of its end. Patient was asymptomatic at presentation. She had no complains of abdominal pain or vomiting. Pulse was 78/min, blood pressure was within normal limits. On per abdomen examination, abdomen was found to be soft with no tenderness and guarding. Gastroenterologists first tried removal of this hairpin by push enteroscopy. The pin was seen in the distal part of jejunum (Fig. 1). Snare was used to hold it but while removal, it got impacted in the wall of proximal jejunum and pierced the jejunum. Then decision was taken to do exploratory laparotomy. On exploration, 2 cm of the hairpin was seen penetrating outside the proximal jejunal wall (Fig.2). Surrounding structures were not injured. Rest of the bowel was found to be normal. A small enterotomy was done and the needle was removed (Fig.3). Enterotomy was primarily sutured. Post operative course was uneventful.

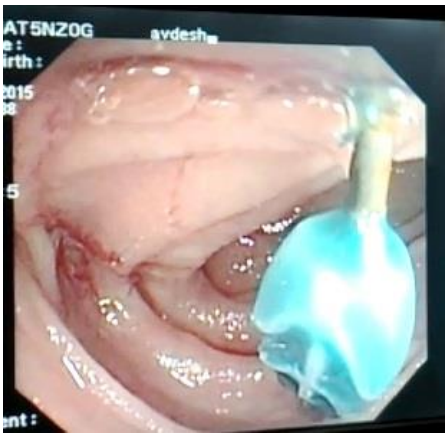

Fig. 1: Enteroscopic Photo showing impacted hair-pin in the jejunum

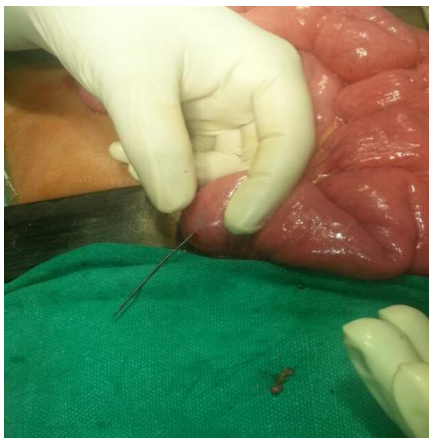

Fig. 2: Intra- Operative photo showing 2 cm length of pin outside jejunal wall

Fig. 3: Post-operative photo of the hair pin

DISCUSSION

Common sharp pointed foreign bodies include bones, toothpicks, needles, safety pins, nails, dental appliances and medication blister packs. They should be removed, if possible, before they pass through the stomach, as 15-35% of sharp pointed foreign bodies will perforate the intestine, usually, near the ileocecal valve [2, 3].

Single- and double balloon enteroscopy can access the small intestine and may have an important role in the treatment of foreign body ingestions. Previous reports have reported the successful use of balloon enteroscopy to retrieve retained video capsules [4, 5]. Shingo Kato *et al*. had reported double balloon enteroscopic removal of a foreign body (dental reamer) for the first time from the small intestine [6]. Enteroscopic removal of foreign objects from the small intestine demands skilful handling of endoscopic instruments as dictated by the long length and narrow lumen of the small intestine [6]. We require snare to remove these impacted foreign bodies. Double balloon endoscopy (DBE) uses two balloons. One of the balloons is attached to the tip of the endoscope and another at the distal end of an overtube. By the use of the balloons to grip the intestinal wall, the endoscope can be inserted further without forming redundant loops of intestine. DBE has an accessory channel and good maneuverability in the distal small intestine that enables endoscopic procedures like hemostasis, balloon dilation, mucosal resection, polypectomy and retrieval of the foreign bodies [7]. The medical gastroenterologist had attempted push enteroscopy for removal of the sharp foreign body by a snare, but while maneuvering through the proximal jejunum the needle got impacted in the jejunal wall. So we had to do emergency laparotomy for removal of the hairpin.

CONCLUSION

We would like to suggest removal of sharp object from small intestine to be done through the overtube together with the balloon enteroscope. This will avert chances of impaction of sharp foreign body in small intestine, as well as avert major anesthetic and surgical trauma to the patient and recovery is also faster as compared to surgery. As this is a first case being reported for removal of sharp object, few more cases are needed to be done to prove the utility of this procedure in removal of sharp foreign body from a small intestine.

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