INTRODUCTION

Ingested foreign bodies mostly pass through the gastrointestinal tract uneventfully within a week.\(^1\)\(^-\)\(^7\) Intestinal perforation by a foreign body is uncommon occurring in less than 1% of patients. It normally affects the ileocecal and rectosigmoid regions.\(^1\)\(^-\)\(^5\) Goh found the most common site of intra-abdominal perforation as the terminal ileum (38.6%).\(^1\) Metallic foreign bodies are radiopaque and easily seen on plain radiography.\(^6\) The presence of free gas under the diaphragm is uncommon with foreign bodies perforation of the GI tract.\(^5\)\(^,\)\(^7\) This is because the perforation is usually caused by impaction and progressive erosion of the foreign bodies through the intestinal wall, allowing it to be covered by fibrin, omentum, or adjacent loops of bowel. This limits the passage of large or detectable amounts of intraluminal air into the peritoneal cavity.\(^1\)\(^,\)\(^5\) The presence of free air was demonstrated in only 15.9% of patients.\(^1\)

We present a case of multiple non-metallic and metallic foreign bodies ingestion by an adult man with perforation of distal ileum.

CASE REPORT

A 22-year-old male patient presented to the General Surgical Department of Dicle University Hospital with abdominal pain, nausea and vomiting lasting for 5 days. Patient was under arrest due to escaping from army, and he was diagnosed as mild level mentally retarded. He had reportedly swallowed some materials several days before the onset of these symptoms.

Physical examination revealed a soft, distended abdomen with mild tenderness to palpation in the right lower abdominal region with no signs of peritonitis. A complete blood count and basic metabolic panel (glucose, calcium, sodium, potassium, \(\text{CO}_2\) \((\text{carbon dioxide, bicarbonate})\)) were normal. An X-ray of abdomen revealed presence of radiopaque foreign bodies (a 10 cm wood nail, nail scissors and a small size battery) with dilated loops of small bowel (Figure 1). A nasogastric tube was placed for gastric decompression. The next morning, 12 hours after admission, the patient was found to have more abdominal pain with obvious increase in abdominal distention. The patient was taken to the operating room for exploratory laparotomy and removal of foreign bodies. A midline abdominal incision was made and on exploration, the small bowel was found almost completely adhered. A 10 cm wood nail and nail scissors were palpated in mid/distal ileum. Distal ileum was fixed to rectum with so many adhesion and inflammation. After releasing adhesions, distal ileum 10 cm proximal to cecum was found to be perforated.

ABSTRACT

A 22-year-old man was admitted with abdominal pain, nausea and vomiting secondary to ingestion of multiple foreign bodies. He was found to be in increasing distress with an increase in abdominal pain and distention and no passage of foreign bodies. Patient underwent a laparotomy. Foreign bodies removed from perforated distal ileum included 8 big size (10 cm) plastic clothes pegs, a 10 cm pencil, couple of stones, a 10 cm wood nail, nail scissors and a small size battery. In case of foreign body ingestion, especially in mentally-ill patients, the patient should be carefully examined because of the potential risk of obstruction and bowel perforation, more so, if the foreign body is a battery which can puncture causing corrosive injury as well.

Key words: Foreign body ingestion, Distal ileum, Perforation, Adult male.
The foreign bodies were removed from perforated part of ileum. The foreign bodies were 8 big size (10 cm) plastic clothes pegs, a 10 cm pencil, couple of stones, a 10 cm wood nail, nail scissors and a small size battery (Figure 2). The foreign bodies were removed, and the segment of perforated ileum was resected and closed with primary ileoileal anastomosis. The patient had an uneventful postoperative course, and was discharged on postoperative day 7.

DISCUSSION

Foreign body ingestion is a relatively common occurrence among children, alcoholics, prison inmates, edentulous persons, and the mentally-ill. Despite the number and variety of objects ingested, intestinal perforation from foreign bodies is a rare phenomenon. Majority of foreign bodies proceed through the gut with most objects passing spontaneously through the anus without complication once they are past the gastroesophageal junction. However, objects with sharp edges or points such as pins, needles, tacks, razor blades, pieces of glass, or open safety pins may cause erosion or perforation at any level of the gastrointestinal tract.

Of all the ingested foreign bodies, less than 1% cause perforation of the gastrointestinal tract. Sharp and elongated objects most likely penetrate bowel or esophageal mucosal lining and may cause bowel perforation. Perforations are more common in ileocecal region. Metallic objects, like needles or elongated objects such as fish bones, chicken bones, and toothpicks are the foreign bodies most frequently reported, causing a perforation. In many cases, these types of perforations do not occur acutely or cause acute symptoms. The object may only partially perforate the bowel wall and produce a chronic inflammatory process that has few symptoms, being discovered months or years later. In this patient, distal small bowel was distended, inflamed and adherent to lower pelvis with a closed perforation. After separating bowel adhesion, perforated bowel appeared.

The corrosive nature of an alkaline battery can lead to esophageal erosion or perforation. Batteries contain a variety of alkaline corrosive agents, such as aqueous potassium hydroxide, and heavy metals like mercury and cadmium. If their containers fracture, the caustic content may spill leading to perforation. Batteries lodged in the esophagus should be removed immediately.

Plastic clip ingestion such as those used for bread packages have been noted to grip various portions of the bowel mucosa, producing inflammation and ulceration and eventually leading to severe complications such as perforation, obstruction, intussusception, fistula formation, abdominal abscess formation, and death. Unfortunately, these clips are not opaque on radiographs and are difficult to detect. They may become encrusted with mineral or bile salts and are thereby rendered opaque. This patient swallowed 8 big size (10 cm) plastic clothes pegs with serrated edges and all were impacted in the distal part of the ileum. The wood nail was 10 cm long; the nail scissors was too big besides a 10 cm pencil. Those objects caused inflammation and perforation in the distal ileum with partial obstruction.

Patient who had swallowed foreign objects should be carefully observed in terms of abdominal pain and distention. Esophageal impaction demands surgical removal. During observation period, a daily radiograph should be obtained and patient should be checked for signs of peritonitis or gastrointestinal bleeding. Stools should also be examined for the foreign body in the follow-up. In case of gastrointestinal hemorrhage or peritonitis, surgical exploration and removal of the object is necessary.

Whenever, there is a history of foreign body ingestion, especially in mentally-ill patients, the patient should be vigorously monitored. Alkaline batteries and objects with sharp edges or points mandate more vigilant management.

REFERENCES