INTRODUCTION

Ingestion of foreign bodies is commonly seen in children; in toothless adults, in those with a psychiatric disorder or mental retardation; and among prisoners.1 Eighty percent of ingested foreign objects are reported to enter the gastrointestinal tract, whereas rest of the 20% enters the tracheobronchial tree.2 History of foreign body ingestion in literature dates to as early as 1602 when a man swallowed a knife.3 The first ever reported surgery of such patients dates back to 1635, when gastrotomy was performed on a man who also had swallowed a knife.4 The highest number of foreign bodies ingested and reported till now is 2533 that was almost a century ago.5

Hereby we present a case of young psychiatric male patient who was found to have thousands of ingested metallic nails causing gastric outlet obstruction.

CASE REPORT

A 20 years old male carpenter with known psychiatric illness, came to the Emergency Department. He was complaining of generalized abdominal pain along with episodes of constipation for the last few months. He used to pass small amount of black tarry stools after taking laxatives. He was reportedly swallowing nails and passing them in stool for last one and half years. Examination revealed marked anemia. He was having a hard tender irregular 10 x 10 cm mass in left iliac fossa. Digital rectal examination stained the finger with dark black colour.

X-ray abdomen showed a large amount of metallic nails clumped in an enlarged stomach descending down to pelvis (Figure 1). CT scan confirmed the findings and showed a bulge on lower anterior abdominal wall (Figure 2). Peroperative massively distended stomach found filled with nails (Figure 3). Whole gut was appearing purplish colored but without any perforation. Gastrotomy revealed stomach filled with nails and sand in a muddy look. A total of 2562 nails were retrieved with most found clumped to each other and impacted in stomach wall mostly along greater curvature. Stomach wall was grossly thickened to approximately two times its normal thickness. Most of the nails were found in pieces, deformed and rusted (Figure 4). The total weight of dried nails after separating sand was 1400 grams. The length of retrieved nails ranged from 1 to 5 cm (Figure 4). About 3 nails were felt to be in duodenum, distal ileum and sigmoid colon which were also seen in X-ray and were left in situ without any intervention. Primary closure of gastrotomy was done following evacuation of nails. Patient was allowed orally on the fifth postoperative day and got discharged on 10th

ABSTRACT

Ingestion of foreign bodies is a common clinical scenario in any emergency department. Presence of thousands of ingested foreign bodies inside stomach is a rare scene. However, only a few such cases have been reported. Here we present a case of young adult man with known psychiatric disorder, having 2562 nails in his stomach leading to gastric outlet obstruction. Gastrotomy was employed to relieve the stomach of this mine of nails. Later psychiatric care was also provided.

Key words: Foreign body ingestion. Stomach. Gastrotomy. Metallobezoar.

Figure 1: X-ray revealing stomach full of metallic nails.
Figure 2: CT scan with anterior abdominal bulge and straining caused by metal nails.
Figure 3: Stomach filled with nails.
Figure 4: Retrieved rusted nails ranging from 1-5 cm.
postoperative day after full psychiatric evaluation in psychiatric ward. After the surgery, daily abdominal radiographs were taken showing progression of the nails remaining in gut. The remaining nails were delivered in stools on the 5th and 6th postoperative days.

**DISCUSSION**

The numbers of foreign bodies ingested vary among different groups of patients. Accidental ingestions including in children, present mostly (96%) with single foreign body. Imprisoned patients usually (61.4%) ingest multiple foreign bodies while psychiatric patients present with multiple foreign bodies ingestion only in 40% cases.6 Regardless of their numbers, foreign bodies in gastrointestinal tract may pass, remain or dissolve. In certain cases these may cause complications of obstruction, bleeding or perforation or, more unusually, intoxication.6 Nearly all types of foreign bodies can be observed after passing the duodenojejunal junction and about 80% will pass with no complications. Of the foreign bodies that remain in the stomach, a considerable number (10-20%) can be removed via endoscope. Only a relatively small number of patients (1%) require operative removal of gastric foreign bodies usually due to secondary mechanical gastric outlet obstruction.1 Sharp and pointed objects have an even higher risk of perforation of 15-35%.7 Such objects can be removed by gastrotomy8 or more convincingly harp-pointed objects may be followed with daily radiographs to document their passage, and surgical intervention should be considered for objects that fail to progress for 3 consecutive days.9

Chronic ingestion or consumption of indigestible materials usually forms Bezoars. They mostly originate in stomach and found mainly in psychiatric patients who swallow their hair (trichobezoar), vegetable fibers (phytobezoar), tablets/semiliquid masses of drugs (pharmacobezoar) and metallic objects like nails (metallobezoar). Surgery is recommended in these cases with massive and non-progressive foreign bodies, or with some complication including those with acute intestinal obstruction.10 Gastric bezoar is commonly removed by longitudinal gastrotomy. If complicated, a few percent of cases can be treated by gastric resections.10

Open surgical intervention in management of foreign body ingestion has a definitive role when dealing with huge number of foreign bodies, with some complication like perforation or obstruction with sharp and pointed foreign bodies posing high likelihood of perforation and with non progressive foreign bodies at least for 3 consecutive days.

**REFERENCES**