

## Case report

# Multiple foreign body swallow by a psychiatric patient presenting as upper gastrointestinal bleeding

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## ABSTRACT

**Introduction:** Metallic foreign body ingestion is a rare type of bezoar and it could be lethal if untreated in an early incident.

**Case Presentation:** We are reporting a case of a 25-year-old male patient, known schizophrenic patient presenting as upper gastrointestinal (GI) bleeding caused by massive foreign body swallow. This patient brought to the emergency surgical outpatient department of Ayder Comprehensive Specialized Hospital, Mekelle University by his mother. At the time of presentation, the patient was suffering from abdominal pain, coffee ground vomiting and tarry stool of one-month duration. The patient claimed to have swallowed multiple coins and broken glasses prior to the onset of his symptoms over the last forty days. Following surgical exploration, we have retrieved 181 different types of items weighing one kilogram from the stomach of the patient. To the best of our knowledge, this is the largest amount to be retrieved from the stomach of a patient in Ethiopia.

**Conclusion:** Providing regular follow-up treatment and support to psychiatric patients is important to decrease adverse experiences of the foreign body ingestions especially to schizophrenic patients.

**Keywords:** *foreign body; psychiatric patient; GI bleeding; Bezoar.*

## Introduction

A bezoar is a collection of partially digested or undigested foreign material in the gastrointestinal (GI) tract. Classification is based on the type of the bezoar ingested. It could be food particles, hair, drugs or metallic objects. Foreign body ingestion is particularly common in children. In adults, foreign body ingestion is frequently seen in prisoners, alcohol addicted and psychiatric patients. Metallic foreign body ingestion is a rare type of bezoar and there are few case reports [1]. Coins made of zinc, have been reported to interact with gastric acid leading to stomach ulceration [2]. A foreign body lodged in the GI tract may have little or no effect; cause local inflammation leading to pain, bleeding, scarring, and obstruction; or erode through the GI tract [3]. Foreign body swallowing is a less common cause of bleeding, but it could be lethal, especially if the patient is has massive bleeding and does not report the early [4]. This case report aims to present a rare case of massive foreign body ingestion by a psychiatric patient presenting as upper GI bleeding in Tigray region, Ethiopia.

## Case presentation

We are reporting a case of a 25-year-old male patient, known schizophrenic for the last three years. The patient presented as upper GI bleeding secondary to the gastric irritation of the foreign bodies and failure to pass feces. The patient has discontinued his psychiatric follow-up and medications at the time of his presentation to our hospital. He was brought to the emergency surgical OPD of Ayder Comprehensive Specialized Hospital, Mekelle University by his mother. At the time of presentation to our hospital, the patient was suffering from abdominal pain, coffee ground omitting and tarry stool of one-month duration. The patient claimed to have

swallowed multiple coins and broken glasses prior to the onset of his symptoms over the last forty days. There was no fever, or abdominal distension, and urinary complaint. However, the patient didn't pass stool in the last six days before his admission to our hospital, although he can pass flatus. He didn't have a similar history in the past.

Up on physical examination; his BP = 100/70 mmHg, PR = 88beats/min, RR = 20breaths/min, and temp= 36.8<sup>0</sup>C. He had dry lips and buccal mucosa. The abdomen moves with respiration and is scaphoid. It was soft on palpation and has no organomegaly. There was a palpable, irregular, ill-defined, non-tender hard mass in the suprapubic area. Upon digital rectal examination, there was mass palpable anterior to the rectum. There was tarry stool in the examining finger. up on Investigations; WBC = 13.11x10<sup>9</sup>/l with 84.5% Granulocytes and hematocrit was 51.47%. The abdominal film showed a radio-opaque shadow in the suprapubic area. No free peritoneal air or distended loops were noted.

The preoperative abdominal X-ray has also shown the heavyweight of the swallowed foreign bodies resulting in the pelvic stomach has prevented the spontaneous passage of the items distally (Figure 1). After obtaining written consent from his mother, intravenous access was established, Nasogastric tube and urinary catheter was inserted and the patient was prepared for exploration.



**Figure 1:** Preoperative plane abdominal X-ray showing massive foreign bodies accumulation in the stomach resulting as pelvic stomach.

### Intraoperative findings

Following general anesthesia, the endotracheal intubation was done. After preparing the abdomen with antiseptics and draping, the peritoneal cavity was opened through a midline vertical infra-umbilical incision. Upon exploration of the pelvic area, there was a hard-mobile mass. It was identified to be a huge elongated stomach reaching the pelvis. About 5 cm long gastrotomy was done over the mass on the anterior wall of the stomach. Following surgical exploration, we have retrieved 181 stacks of different types of items weighing one kilogram from the stomach of the patient (Table 1).

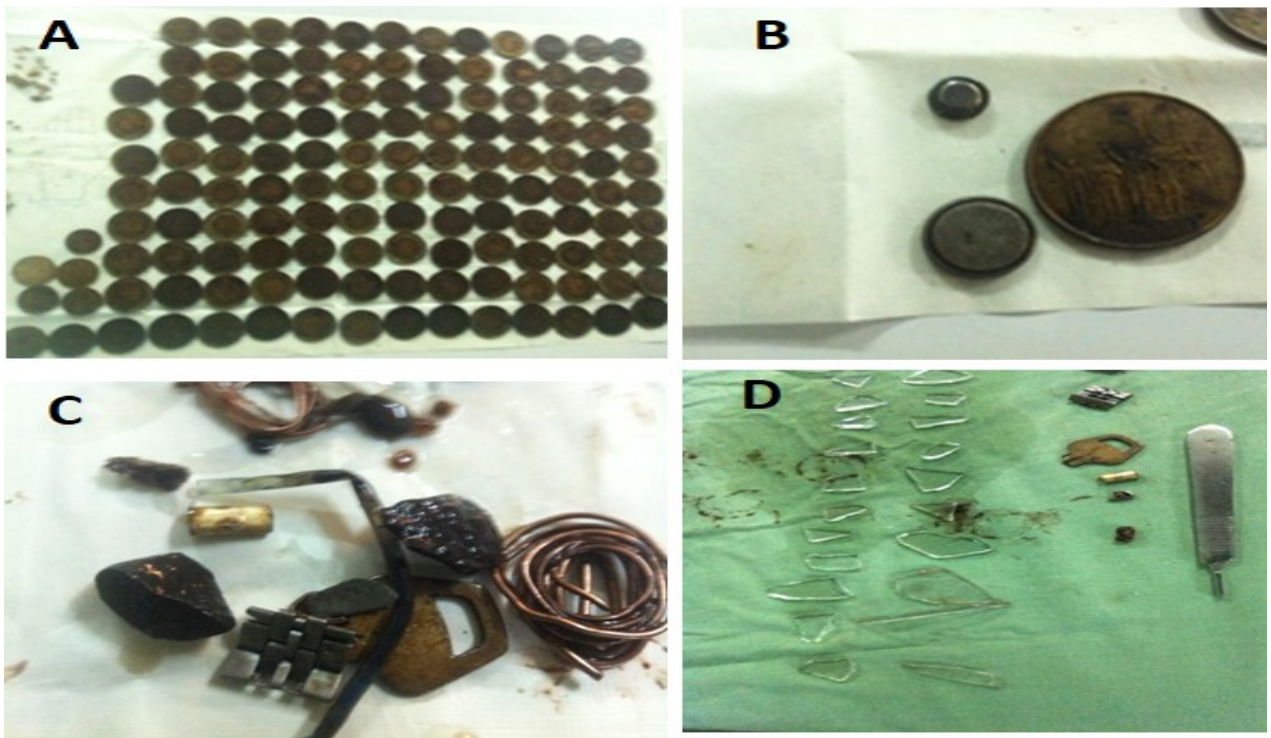
Table 1: List of items removed from the stomach of the psychiatric patient surgically.

Item	Size and Weight	Number
One Birr Coin	27mm in diameter (6.82g, Bi-Metallic)	128
50 cent coin	25mm in diameter (6g, Copper-Nickel)	2
25 cent coin	21.45mm in diameter (3.7g, Copper-Nickel)	2
10 cent coin	23mm in diameter (4.5g, Brass)	2
5 cent coin	20mm in diameter (3g, Brass)	1
Broken glasses	1x1-5x2 cm	24
Gravel	0.5x1-1x1	10
Coiled wire	1.5cm in diameter (10-25 cm straight length)	4
Key (Broken)	2cm in diameter	1
Button batteries	<1cm (Lithium battery)	2
Metallic watch tie	3cm long	1
Broken Pen	5cm long	1
Threads	5cm-10cm long	3
Sludge, sand, seeds (Food debris)		Uncountable

Briefly, the edge of the stomach was held with Babcock forceps and we start removing the coins with sponge forceps under direct visualization. Most of the coins had undergone corrosive change and were discolored (Figure 2). In addition to the coins, we found broken glasses, coiled wires, button batteries, broken key, gravel, undigested seeds, sludges and sands (Figures 3A, B, C, and D).



**Figure 2:** Removed foreign bodies from the stomach of the patient.



**Figure 3:** A) Removed coins from the stomach; B) Removed two button batteries, next to 50 cent coin put for size comparison; C) Removed wires, and other bezoars; D) Removed broken glasses (Scalpel put for size comparison).

After we removed everything with the forceps, the stomach lumen was washed with normal saline and the sludge and coffee ground material were cleared from the stomach lumen. The stomach was evaluated to make sure all foreign bodies are removed.

After confirming it was empty, we closed it in two layers with 2-0 vicryl. The whole small bowel and colon were collapsed and there was no foreign body on palpation. After securing hemostasis, the instrument and gauze count were declared correct and the abdomen was closed in layers. Patient transferred to recovery room semiconscious. His vital signs were stable throughout the operation. Ceftriaxone 1gm IV BID, Metronidazole 500mg IV TID, and Cimetidine 200mg IV BID was started.

A control abdominal film was taken the next day and it shows no foreign body remained in the stomach (Figure 4). Furthermore, there was no need for transfusion as his vital signs remain stable and hematocrit was 40%. The patient was discharged improved on his seventh post-operative day with an appointment. Psychiatric consultation was done and the patient was started on Carbamazepine. One month after the operation the patient appeared to follow up in a good state of health.



**Figure 4:** Post-operative X-Ray showing no foreign bodies in the abdomen.

## Discussion

Foreign body ingestion is commonly seen in children. Nonetheless, in adults, it may happen in psychiatric patients, but it is not common. In normal people, this can happen with the accidental event due to sudden bones and/or other food particle swallowing [5]. In our case, following surgical exploration, we have retrieved 181 different types of items weighing one kilogram from the stomach of the patient presenting as upper GI bleeding. To the best of our knowledge, this is the largest amount to be retrieved from the stomach of a patient in Ethiopia. Reports have shown that the largest number of foreign bodies (2533 objects) was ingested by a psychiatric patient presented without any evidence of bleeding, ulceration, or perforation [6]. Most foreign bodies pass readily into the stomach and travel the remainder of the gastrointestinal tract without difficulty [7]. In our patient due to the heavyweight (one kilogram) of the swallowed foreign bodies resulting in the pelvic stomach has prevented the spontaneous passage of the items distally. Ten to 20% of ingested foreign bodies will fail to pass through the entire gastrointestinal tract [8]. Any foreign body that remains in the track may cause obstruction, perforation or hemorrhage, and fistula formation. Our patient presented with the upper GI bleeding secondary to the gastric irritation of the foreign bodies and failure to pass feces due to the failure of passage of food material to the intestine due to altered anatomy of the stomach. The sharp objects were well padded and didn't result in perforation of the stomach. Less than 1% of foreign bodies cause perforations that are probably caused by sharp objects or by erosion [9].

In the US, out of 1500 children who presented with foreign body swallow, 4% of the children had swallowed a coin, making coin the most common foreign body

swallowed in children [10]. While findings in adult patients with a psychiatric disorder who intentionally swallow foreign bodies were pens (23.6%) the most common followed by batteries (9.2%), knives (7.2%), and razor blades (6.9%) [11].

Our finding has shown that out of the total 181 objects ingested by the patient, coin was found to be the commonest object swallowed by the patient followed by broken glasses, gravel, coiled wires, threads, button batteries, broken key, metallic watch tie, broken pen, and undigested seeds. Removal of the foreign body can be done by endoscopic procedures under general anesthesia. Foreign bodies were commonly retrieved by snares (58.0%), rat-toothed forceps (14.4%), and nets (11.5%), assisted sometimes by use of overtubes (10.8%), and hoods (4.6%) [11]. Foreign body extraction was unsuccessful at the initial endoscopy in only 20 cases; 2 cases eventually required surgical extraction [11]. In our case due to the bulk of the foreign bodies ingested, surgical operation was our initial modality of treatment.

### Conclusion

Foreign body swallow should be suspected in the management of psychiatric patients presenting with upper GI bleeding. Providing regular follow-up treatment and support to psychiatric patients especially for the schizophrenic patient is important for adverse experiences of the foreign body ingestions.

### Conflict of interest

None

### Abbreviations

**GI:** gastrointestinal tract; **OPD:** outpatient department

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