

Gastric Perforation Secondary to Prolonged Multiple Foreign Body Ingestions in a Patient with Schizophrenia

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Gastric perforation secondary to foreign body ingestion is rare. While obvious signs of acute abdomen usually lead to a prompt diagnosis by emergency department (ED) staff, this can be delayed in non-responsive or mentally disabled patients. An altered pain perception has been described in schizophrenia, as part of a complex phenomenon, which is thought to be unrelated to changes in nociceptive pathways. Cognitive impairment and negative symptoms may strongly influence the patient's expression of pain [1].

Most ingested foreign bodies pass spontaneously through the gastrointestinal tract, with less than 1% of cases requiring surgical intervention [2]. The perforation site associated with swallowed foreign bodies is the angulated bowel segment as recto-sigmoid or ileocecal junctions, still it may happen in any site along the gastrointestinal tract [3].

Ingestion of foreign bodies in patients with schizophrenia should

be suspected and may present unusually. Prompt surgical exploration should be performed to improve prognosis. Clinicians should maintain a high index of suspicion of uncommon, yet serious, medical conditions when evaluating these patients.

A hemodynamically unstable patient with schizophrenia presented to our facility after ingestion of multiple objects. There are few reports in the literature of this unique presentation. We describe the diagnostic challenge, the workup, resuscitation, and definitive emergent surgical management of this unusual case.

PATIENT DESCRIPTION

A 41-year-old male patient with diabetes, schizophrenia, and poor psychiatric follow-up was brought to the emergency department (ED) at the Tzafon Medical Center by a prehospital care unit due to an unstable gait, dizziness, and confusion. His family denied any history of trauma.

At presentation, the patient was pale and irritable, with abnormal vital signs. His blood pressure was low (88/60 mmHg), he was tachycardic (130 beats per minute), his blood glucose was high, and his temperature was subfebrile (37.9°C).

Physical examination revealed decreased air entry to both lungs and no signs of abdominal tenderness. Melena was noted per rectum. A nasogastric tube was inserted, and 600 cc of coffee ground content was drained. Blood tests showed a severely decreased hemoglobin level of 3.8 g/dl.

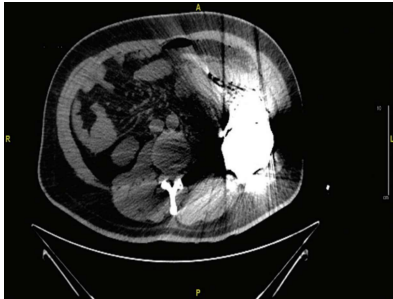
The patient was intubated in the shock room, a central line was inserted, and four units of packed red blood cells (pRBC) and fresh-frozen plasma (FFP) were infused with good hemodynamic response.

Due to the discrepancy in the clinical presentation of an unstable patient without evidence of ongoing bleeding, very low hemoglobin level, and psychiatric background, an emergent upper gastrointestinal endoscopy was considered; however, the ED team decided to continue the workup with a computed tomography angiography (CTA).

Chest CTA showed atelectasis at lung bases with no other pathology. The abdominal CTA showed free peritoneal air and air bubbles around the stomach with a thick, irregular gastric wall, free peritoneal fluid, and a calcified/metallic mass measuring 8 cm × 14.5 cm at the left upper abdomen [Figure 1A].

Figure 1. Abdominal computed tomography (sagittal view)

[A] Hyperdense foreign body



[B] Foreign bodies extracted from the stomach (coins, cut paper bills)



The patient was immediately transferred to the operating room for an emergent exploratory laparotomy. After entering the abdominal cavity, a large amount of coffee ground fluid was seen and suctioned. A 2-cm diameter perforation was found at the anterior wall of the stomach body. Through the perforation, multiple foreign bodies could be seen in the stomach lumen. The antrum and the distal part of the body of the stomach were severely inflamed.

Multiple foreign bodies were evacuated from the stomach, including coins and shredded paper bills weighing 1.4 kg [Figure 1B]. A distal gastrectomy was performed with a Roux-en-Y reconstruction. Due to the massive perigastric inflammation, the stomach had to be gently dissected posteriorly to complete the resection. The abdominal cavity was irrigated, and two drains were placed before primary abdominal closure.

Postoperatively, the patient was treated with total parenteral nutrition, antibiotics, antifungals, and proton-pump inhibitors with early ambulation. The patient began oral fluids on the second postoperative day and a soft food diet on the fourth.

On the second postoperative day, the patient presented with pulmonary edema and was treated with intravenous furosemide with good response. The postoperative course was otherwise uneventful, and the patient was discharged to a psychiatric institution for rehabilitation.

COMMENT

Ingestion of foreign bodies has been previously reported in patients with schizophrenia as a manifestation of delusional beliefs or as response to command hallucinations. While research into the cause of altered pain perception in psychotic patients is

ongoing, clinicians evaluating these patients should maintain a high index of suspicion of rare but serious medical conditions.

Ingestion of foreign bodies that results in upper gastrointestinal bleeding and severe anemia could lead to an emergent upper endoscopy, which would have been futile and may have even worsened the patient's condition.

In these unusual cases, a rapid multidisciplinary workup should be performed. Prompt laparotomy is the definitive treatment, and the operative findings and postoperative course may be unexpected.

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You can only protect your liberties in this world by protecting the other man's freedom.

You can only be free if I am free.

Clarence Darrow (1857–1938), lawyer and author

Many people take no care of their money till they come nearly to the end of it, and others do just the same with their time.

Johann Wolfgang von Goethe (1749–1832), German poet, playwright, novelist, scientist, statesman, theatre director, and critic