

Jejunum perforation caused by nasogastric tube: A case report

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Abstract

Introduction: Foreign bodies, accidentally ingested, mostly pass through the gastrointestinal tract without any consequences. A very small percentage perforates the GI tract which may occur anywhere from mouth to anus. A definitive preoperative history of foreign body ingestion is uncertain. Small bowel foreign-body-induced perforations are rarely diagnosed preoperatively because clinical symptoms are usually non-specific and other minor surgical conditions, such as appendicitis. Greater risk of perforation occurs at extreme ages among those wearing dentures and orthodontic appliances, patients with previous bowel pathology, or alcoholic and psychiatric patients. Risk of perforations is related to the object length and sharpness as well. **Case presentation:** We are presenting an interesting case of perforation caused by NG-tube with a 36 year – old man. The patient was admitted with a primary diagnosis of RLQ pain and was taken to operating room for appendectomy but not was appendix turgid. In further investigations into the abdomen a jejunum perforation was found to have been caused by a foreign body. After extraction, it was determined as part of nasogastric tube. **Discussion:** Foreign bodies accidentally ingested mostly pass through gastrointestinal tract without any serious consequences. A definitive preoperative history of foreign body ingestion is uncertain. It was decided to do resection of the midline of abdomen and deliver the nasogastric tube. Postoperative treatment went well. **Conclusion:** Intestinal perforation via nasogastric tube is rare. The lack of history of ingestion and that of nasogastric tube detection preoperatively is considerable in differential diagnosis of acute abdomen, which in this case was treated surgically.

Keywords

Perforation, Peritonitis, Foreign Body Ingestion

1. Introduction

Foreign body ingestion is rare in adults. Intestinal foreign bodies usually cause no harm and are evacuated spontaneously without treatment. Nasogastric tube ingestion is rare, but is likely to cause severe damage to the gastrointestinal (GI) tract, regardless of size. Cases of an ingested nasogastric tube causing intestinal fistula formation or perforation, leading to intestinal obstruction have been documented; however, there are few reports of nasogastric tube ingestion causing intestinal volvulus and perforation in adult.

2. Case Report

A 36-year-old man was admitted to *Mousaibn-e-Jafar* hospital with a one-day history of abdominal pain and bilious vomiting. Being diagnosed as anorexia, he received no medication. On examination, his abdomen was rigid with muscle guarding and severe rebound tenderness. His bowel sound was weak. His vital signs were: pulse rate= 50/min, blood pressure= 100/60 mmHg, respiratory rate = 21/min and temperature = 37°C.

He was admitted with primary diagnosis of pain in right lower quadrant (RLQ) regional emergency ward.

Emergency surgical consultation was done. Based on clinical signs and symptoms, significant laboratory results were as follows: white blood cell count 13500/ μ l, neutrophil= 85%, platelet= 263000/ μ l and urinalysis was normal and without blood), he was NPO. A nasogastric tube for drainage was inserted. Then intravenous line was inserted and injected ceftriaxone and metronidazole.

The patient was prepared for appendectomy and transferred to operating room but almost appendix was normal (at congestive phase with fibrin excretion). Thus, an emergency explorative laparotomy in general anesthesia was performed where a 5 mm puncture in the jejunum segment was detected, a 22 cm long foreign body which was in fact a piece of nasogastric tube. That had been darkened and stiff. Perforation was repaired a dantrotomy was executed. Intraoperative findings revealed diffuse purulent peritonitis that was completely drained. The patient was treated with a successful operation, and no postoperative complications were observed.

3. Discussion

Foreign bodies accidentally ingested mostly pass through the gastrointestinal tract without any consequences (2). The most common objects are dentures, fish bones, chicken bones, toothpicks, and cocktail sticks. A very small percentage perforates the GI tract, which may occur from mouth to anus. A definitive preoperative history of foreign body ingestion is uncertain (1). Small bowel perforations by foreign bodies are rarely diagnosed preoperatively because clinical symptoms are usually non-specific and mimic other surgical conditions, such as appendicitis and caeca diverticulitis (3). Greater risk of perforation occurs at extreme ages, in those wearing dentures and orthodontic appliances (4), in patients with previous bowel pathology, or in alcoholic and psychiatric patients (5,6).

The risk of perforations is related to the length and the sharpness of the object (7). Most perforations occur at the narrowing and angulations of the GI tract (8).

The clinical presentation includes peritonitis, abdominal abscess formation, enterovesical fistulas, intestinal obstructions, and hemorrhage (2). The most common preoperative diagnoses were acute abdomen of uncertain origin (4). Our patient had a clinical presentation of acute abdomen with a suspicion of duodenal perforation.

Patients with foreign body perforations in the stomach, duodenum, and large intestine were significantly more likely to be febrile, to have chronic symptoms, to have a normal total white blood cell count, and to be asymptomatic or present with an abdominal mass or abscess, compared to those with foreign body perforations in the jejunum and ileum (1).

The treatment usually involves resection of the bowel, although occasionally repair has been described (8). The lack of conditions pre-disposing accidental ingestion of foreign bodies and no specific history of foreign bodies are of interest in these cases (9).

During laparotomy, diffuse purulent peritonitis was detected. An 18" mass of 22 cm long foreign body was found which was in fact discovered in about 15 years earlier following the head trauma, he suffered in a coma and hospitalized. A nasogastric tube was inserted for feeding. During this period, he sometimes complained abdominal pain that resolved spontaneously or by medications. One of the main reasons could be the lack of nursing care. Of course, one of the possible reasons was mental disorder. The piece of nasogastric tube was very dark and stiffened. Perforation was fixed and antrotomy was performed. The postoperative treatment went well.

4. Conclusion

Intestinal perforation by a nasogastric tube is quite rare. Lack of history of ingestion and that of nasogastric tube detection preoperatively is considerable in differential diagnosis of acute abdomen, which in this case was treated surgically. In admission, it is necessary to evaluate psychological statue. The need for precision in the delivery and development of nursing care related to a nasogastric tube including placed in per days can be very important in preventing these cases.

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