

Small-Bowel Perforation Caused By A Swallowed Chicken Bone – A Case Report

A Patloo, M Zaz, A Amin, R Bali, M Khan, M Khan

Citation

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Abstract

Introduction: Ingesting a foreign body is not an uncommon occurrence and most foreign objects pass uninterrupted through the gastrointestinal tract without any complications. Bowel perforation leading to acute abdomen requiring surgical treatment is seen in very few cases. **Case presentation:** We are presenting a case with acute abdomen caused by accidentally ingesting a part of chicken bone. A 61-year-old male was presented in the surgical emergency clinic with abdominal pain, nausea, and anorexia. Upon physical examination, a distended and diffusely tender abdomen with right lower abdomen rebound was revealed. Laparotomy was performed in general anesthesia on the day the patient was admitted. Intra-operative findings revealed diffuse purulent peritonitis. **Discussion:** Foreign bodies accidentally ingested mostly pass through the gastrointestinal tract without any consequences. The most common objects are dentures, fish bones, chicken bones, toothpicks, and cocktail sticks. A definitive preoperative history of foreign body ingestion is uncertain. During laparotomy we found diffuse purulent peritonitis. A tiny sharp-pointed object was found penetrating the inflamed portion of the distal ileum. We decided to do resection of the distal ileum with primary anastomosis. The postoperative treatment went well. **Conclusion:** Intestinal perforation by a chicken bone is rare and most often affects the left colon or distal ileum. The lack of history of ingestion and of detection of chicken bones preoperatively is of interest to be considered in the differential diagnosis of acute abdomen, which in this case was treated surgically.

INTRODUCTION

Ingesting a foreign body is not an uncommon occurrence and most foreign objects pass uninterrupted through the gastro intestinal tract without any complications [1]. Bowel perforation leading to acute abdomen requiring surgical treatment is seen in very few cases [1,2]. Discovery remains intraoperative in most cases [1]. Foreign bodies, such as dentures, fish bones, chicken bones, and toothpicks, have been known to cause perforation of the GI tract [1].

CASE PRESENTATION

We are presenting a case with acute abdomen, i.e. ileum perforation, caused by accidentally ingesting a part of chicken bone.

A 61-year-old male was presented in the surgical emergency clinic with abdominal pain, nausea, and anorexia. The symptoms had started two days earlier. He was an ex-smoker (quit smoking 7 years back). The patient's weight was 73 kg. His vital signs were: blood pressure 148/88 mmHg; pulse rate 90 beats/min.; respiration rate 19/min.; body temperature 38.5°C.

Upon physical examination, a distended and diffusely tender abdomen with right lower abdomen rebound was revealed. The patient's skin and mucosa were pale.

The emergent laboratory tests revealed the following results: white blood cells (WBC): 12.6×10^9 /liter; serum creatinine: 0.5 mg/dL; blood urea nitrogen: 8.6 mmol/L; blood sugar: 11.6 mmol/L; Na: 139 mmol/L; K: 4.3 mmol/L; urinalysis: a lot of mucus, 4–6 leucocytes; some epithelial cells. Plain abdominal radiography showed features of obstruction with free gas under the diaphragm. Urgent abdominal ultrasonography revealed mechanical obstruction, dilated small bowels and free liquid in the peritoneal cavity.

Laparotomy was performed in general anesthesia on the day the patient was admitted. Intra-operative findings revealed diffuse purulent peritonitis; and about 40cm from the ileo-cecal valve a sharp chicken bone perforated the ileum at the anti-mesenteric side (Figure 1). The wall of that part of the ileum was thick, edematous and inflamed (Figure 2). The patient was treated with resection of the perforated distal ileum and end-to-end anastomosis of small bowel. The postoperative treatment went well and patient was discharged on the 6th post-operative day.

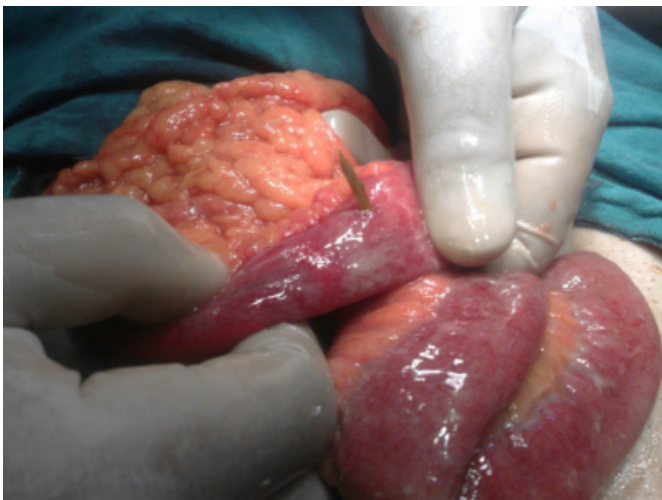
Figure 1

Fig. 1: Chip of ingested chicken bone piercing out from ileum near the mesenteric border



Figure 2

Fig. 2: Large portion of ileum inflamed and edematous with pus flakes over the bowel surface



DISCUSSION

Foreign bodies (FB) accidentally ingested mostly pass through the gastrointestinal tract (GT) without any consequences [3]. 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 FB are rarely diagnosed preoperatively because clinical symptoms are usually non-specific and mimic other surgical conditions, such as appendicitis and caecal diverticulitis [4]. Greater risk of perforation occurs at extreme ages, in those wearing dentures and orthodontic appliances [5], in patients with

previous bowel pathology, or in alcoholic and psychiatric patients [6,7].

The risk of perforation is related to the length and the sharpness of the object [8].

Overeating, rapid eating, or a voracious appetite may be contributing factors for ingesting chicken bones. The mean time from ingestion to perforation was 10.4 days [5]. Most perforations occur at the narrowing and angulations of the GI tract [9]. The most common abdominal site of perforation is the distal ileum [1,4,10-12], caecum, and left colon [5,11,13,14], although an increased incidence of perforation has been reported in association with the Meckel diverticulum, the appendix, and/or mimicking diverticular disease [2,10,15].

The clinical presentation includes peritonitis, abdominal abscess formation [2], enterovesical fistulas, intestinal obstructions, and hemorrhage [2]. The most common preoperative diagnoses were acute abdomen of uncertain origin [5]. Our patient had a clinical presentation of acute abdomen with a suspicion of duodenal perforation.

Patients with FB 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 FB perforations in the jejunum and ileum [1].

Although the imaging of findings can be nonspecific, the identification of a chicken bone with an associated mass or extraluminal collection of gas in patients with clinical signs of peritonitis, mechanical bowel obstruction, or pneumoperitoneum strongly suggests the diagnosis [9,13].

The treatment usually involves resection of the bowel, although occasionally repair has been described [9]. The lack of conditions pre-disposing accidental ingestion of FB and no specific history of FB are of interest in these cases [12].

During laparotomy we found diffuse purulent peritonitis. A tiny sharp-pointed object was found penetrating the inflamed portion of the distal ileum. Soon thereafter, a part of the shaft of a chicken bone was removed. We decided to do a resection of the distal ileum with primary anastomosis. The postoperative treatment went well.

CONCLUSION

Intestinal perforation by a chicken bone is rare and most often affects the left colon or distal ileum. The lack of history of ingestion and of detection of chicken bones preoperatively is of interest to be considered in the differential diagnosis of acute abdomen, which in this case was treated surgically.

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Author Information

Asim Mushtaq Patloo, MBBS MS

Dept. of Surgery, Government Medical College

Muneer Ahmad Zaz, MBBS, MS

Dept. of Surgery, Government Medical College

Ashfaq Amin, MBBS, MS

Dept. of Surgery, Government Medical College

Rajandeepsingh Bali, MBBS, MS

Dept. of Surgery, Government Medical College

Masarat Ashraf Khan, MBBS

Dept. of Surgery, Government Medical College

Mehvish Afzal Khan

Dept. of Surgery, Government Medical College