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Case report

Intestinal Perforation Associated with Chicken Bone Ingestion: A Case Report

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Abstract

Introduction: Intestinal perforations caused by foreign bodies are rare, occurring in less than 20% of cases. The clinical presentation is nonspecific and can mimic other surgical pathologies, making diagnosis often intraoperative. Treatment for such cases is surgical. **Objective:** To describe the case of an elderly female patient presenting with acute abdomen, where an incidental finding of a foreign body was identified through abdominal computed tomography, revealing a chicken bone that perforated an intestinal loop. **Discussion:** Foreign bodies in the gastrointestinal tract often go unnoticed in many individuals as they typically do not cause symptoms. When complications arise, the symptoms are nonspecific, and the diagnosis is usually made during surgery. Therefore, thorough history-taking, a high index of suspicion in certain patients, and timely management are critical. **Conclusion:** Intestinal perforation caused by foreign bodies is uncommon. Diagnostic suspicion is crucial, and surgical treatment is an important approach in managing these complications.

Keywords

Intestinal perforation, peritonitis, abdominal pain, general surgery, mortality.

INTRODUCTION

Foreign body ingestion is a common occurrence across healthcare services, with pediatric patients being disproportionately affected[(1)]. In most cases (80%–90%), foreign bodies that pass through the gastrointestinal tract do not cause any harm; however, some patients experience complications such as bleeding, ulceration, mucosal erosion, local scarring, or perforation[(2)].

The clinical presentation of intestinal perforations is typically acute and rapidly progressive, necessitating urgent surgical intervention. The foreign bodies most frequently associated with this complication include fish bones, chicken bones, toothpicks, and dentures, among others[(2,3)]. In terms of management, patients without clinical deterioration are often placed on watchful waiting. However, in approximately 10%–20% of cases where complications arise, endoscopic intervention is required, while 1% of patients require urgent surgical procedures[(1)].

This case report describes an elderly female patient who presented to the emergency department with acute abdominal pain and underwent surgery, during which an

incidental foreign body was identified as the cause of intestinal perforation. The objective of this report is to highlight how foreign body ingestion can lead to significant clinical deterioration in some patients.

CASE DESCRIPTION

The patient was a 72-year-old female with a medical history of arterial hypertension and breast cancer, presenting with a four-day history of generalized abdominal pain accompanied by distension and nausea. An external abdominal ultrasound had revealed a renal cyst and cholelithiasis. Due to persistent symptoms, she was admitted to the emergency department. Upon initial assessment, she presented with generalized abdominal pain, predominantly in the mesogastrium, and significant abdominal distension.

Laboratory tests revealed hypocalcemia, elevated nitrogenous waste levels, hypoglycemia, moderate hypokalemia, and arterial blood gases indicative of metabolic acidosis. Radiographic and contrast-enhanced abdominal and pelvic CT scans showed signs of hollow intestinal loop rupture, free fluid, and inflammatory changes in the peritoneum. Additionally, the imaging revealed a linear hyperdense structure in the left adnexal region and sigmoid colon, along with a right cortical renal cyst and cholelithiasis (**Figure 1**).

The patient was evaluated by the surgical team, who decided to perform an urgent exploratory laparotomy. Intraoperatively, diffuse peritonitis involving all four abdominal quadrants was observed (with 1600 mL of purulent fluid), as well as evidence of rectal perforation caused by a foreign body (a chicken bone) (**Figure 2**). A partial colectomy and colostomy were performed, and the foreign body was removed (**Figure 3**). Postoperatively, the patient required intensive care unit (ICU) monitoring and was administered a broad-spectrum antibiotic regimen for one week.

DISCUSSION

Foreign body ingestion is generally not a clinical concern, but in some cases, it can lead to significant complications. A direct relationship has been reported between the size of the foreign body and the location of the complication. Specifically, objects thicker than 2 cm and longer than 6 cm rarely pass through the gastrointestinal tract[4]. It is important to note that not all foreign bodies are visible using certain radiological studies; for instance, wooden splinters and some plant thorns are not detectable on standard X-rays.

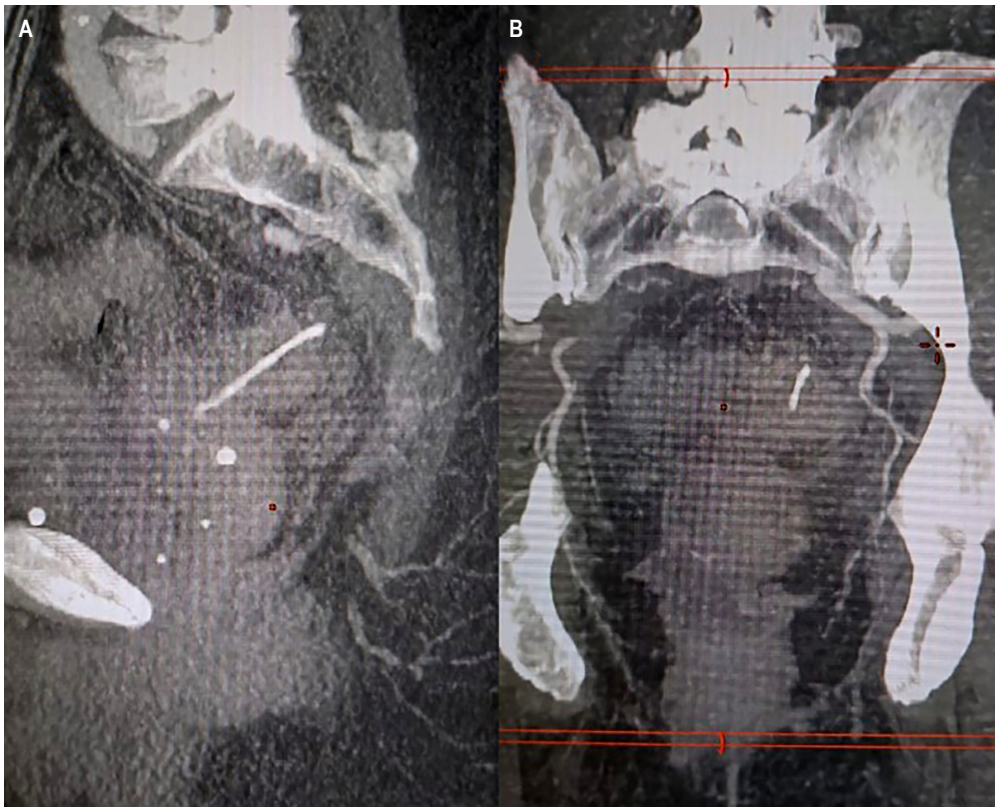


Figure 1. Abdominal and pelvic CT scan showing signs of hollow intestinal loop rupture, free fluid, inflammatory changes in the peritoneum, and a linear hyperdense structure in the left adnexal region and sigmoid colon. Image courtesy of the Radiology Department, Fundación Cardiovascular de Colombia. Bucaramanga, Colombia.

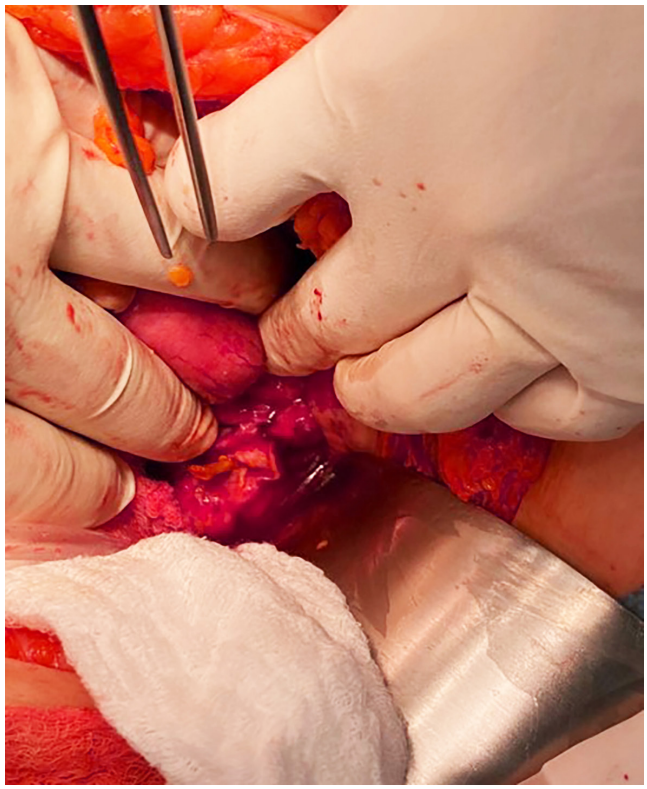


Figure 2. Intraoperative finding of mid-rectal perforation caused by a foreign body (chicken bone). Image courtesy of the Surgery Department, Fundación Cardiovascular de Colombia. Bucaramanga, Colombia.

Certain conditions, such as stenotic lesions, fistulas, or diverticula, increase the risk of complications associated with foreign body ingestion. In cases involving chicken bone ingestion—considered a sharp object—the rate of gastrointestinal tract complications has been estimated to be as high as 35%[1].

Preoperative diagnosis of perforations is rare, as their clinical presentation can be non-specific, especially in cases of peritonitis, abscesses, enterovesical fistulas, obstructions, or hemorrhages, all of which can mimic other surgical pathologies. Common symptoms in such cases, as well as in other reported patients, include abdominal pain and distension lasting several days[5]. The most frequent sites of perforation are the distal ileum, cecum, and left colon. Contrast-enhanced computed tomography (CT) is one of the recommended diagnostic methods for such cases, as reported in the literature, as it can detect small objects such as bones[6–8]. Additionally, for cases in which bones have not passed the proximal duodenum, endoscopy is advised[9].

Surgical treatment should be individualized. In patients without hemodynamic involvement, conservative management may be effective; however, in patients presenting with acute abdomen due to intestinal perforation, surgical resection is the optimal approach[10].

CONCLUSIONS

Foreign bodies that enter the gastrointestinal system generally do not cause any clinical implications for patients. However, larger objects can cause complications in various parts of the digestive system. One such complication is intestinal perforation, which can occur due to the narrowing and angulation of the gastrointestinal tract. In these cases, surgical intervention involving colonic resection is necessary.

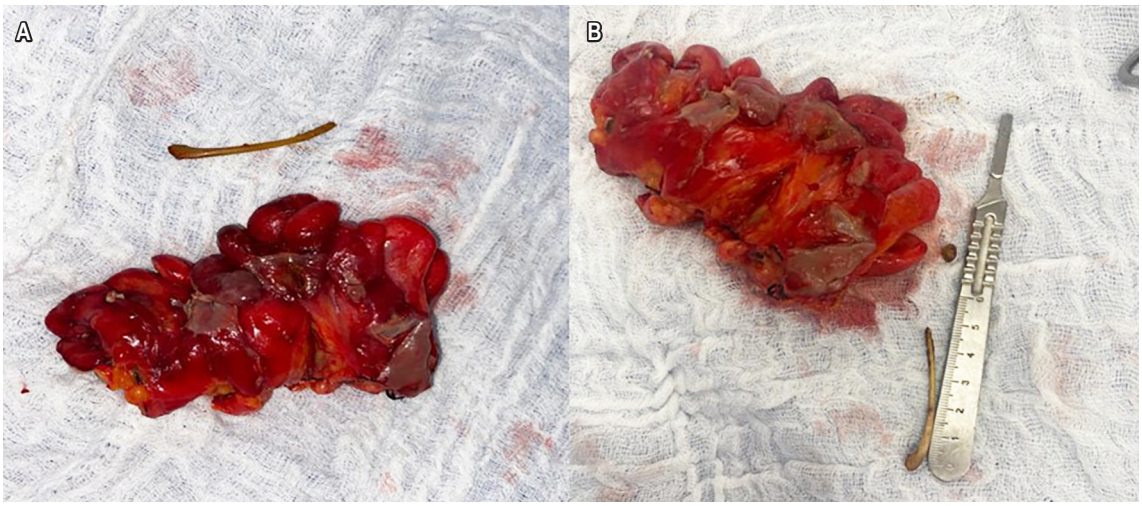


Figure 3. A. Partial colectomy specimen and extracted foreign body. **B.** Extracted chicken bone, measuring 5 cm in length. Source: Surgery Department, Fundación Cardiovascular de Colombia. Bucaramanga, Colombia.

Ethical Responsibilities

This study was conducted in accordance with the prevailing guidelines for clinical research and received prior approval from the institution's scientific committee. Informed consent and authorization were obtained from the patient. The guidelines established in Resolution 008430 of 1993 by the Colombian Ministry of Health and the Declaration of Helsinki, first issued in 1964 and last updated in October 2013, were followed. The recommendations of good clinical practice guidelines for clinical research and the fundamental ethical principles of respect for persons, beneficence, and justice outlined in the Belmont Report were adhered to.

Protection of Human and Animal Subjects

The authors declare that no experiments were conducted on humans or animals for this study.

Conflict of Interest

The authors declare no conflicts of interest.

Funding Sources

This study was self-funded by the authors.

Use of Artificial Intelligence

The authors declare that no artificial intelligence (AI) technologies, such as large language models, chatbots, or image generators, were used in the preparation of this work.

Author Contributions

JCSR, GCP, and EFMH participated in the study design, research protocol planning, data collection, patient case analysis, and manuscript preparation. JDCS and EDGG contributed to the study design, research protocol planning, and manuscript revisions.

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