

Foreign Body (Chicken Bone) Leading to Perforation of the Small Bowel within Irreducible Paraumbilical Hernia: Case Report

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Abstract

Introduction: Poor chewing process in older people can lead to situations where they do not expel hard food particles like small chicken bones. In cases of abnormal sharp angulation of the chime passage through gut, like paraumbilical hernia, the hard, sharp content of an ingested chicken bone may cause local perforation at the antimesenteric side of the bowel, creating a surgical emergency.

Case presentation: We report the case of a 53-year-old female known to have a recurrent paraumbilical hernia. The patient presented to the emergency department with features of incarcerated paraumbilical hernia. Operative findings were a perforation at the antimesenteric side of the small bowel by a chicken bone, contained within the hernia sac, with localized abscess within the hernia sac. The patient was discharged postoperatively in good condition, patient showed uneventful recovery in her outpatient visits afterwards.

Conclusion: Small, sharp, difficult-to-digest food particles like chicken bones may cause bowel perforation in irreducible paraumbilical hernias.

Introduction

Recurrent paraumbilical hernia is a known clinical entity in the practice of surgery. Often, patients present to the health care facility with features of incarceration, which requires urgent surgical intervention. The patient's swallowing habits are an important factor to be considered when taking the history. Chicken bones may have sharp tips that have difficulty passing through the gastrointestinal tract, especially in the case of an abnormal pathological course like paraumbilical hernia. A case that appears to be a more common condition may influence the surgeon's clinical judgment away from the right decision at the right time.

Case Presentation

A 63-year-old female presented to the emergency department with pain around her umbilicus, at a site of swelling which had not resolved as in a past episode three years earlier. At that time the patient had experienced a paraumbilical hernia that required surgical repair. The patient was diabetic controlled by oral medication, hypoglycemic, and had poor dental caries, but was otherwise healthy. Patient meals were primarily cereals, fluids, juices, and chicken products.

The patient started to experience periumbilical pain two days prior to presentation, progressing to colicky abdominal pain and vomiting. The patient had normal vital signs, localized redness, and hotness around the paraumbilical hernia. Abdominal examination showed mild tenderness in the periumbilical region, but otherwise the abdominal examination was normal.

The provisional assessment of incarcerated hernia was made and the patient was booked for surgery. Upon exploration, a small perforation was found at the antimesenteric side of a herniated small bowel. The area was characterized by a sharp toothpick shape causing the puncture, half of it outside the bowel and the rest inside the bowel lumen, abscess

collection contained in the hernia sac, and inflammatory reaction in the surrounding soft tissue.

Primary closure of the puncture was made after removal of the foreign body, and the patient experienced a normal postoperative course, with discharge on the regular pathway.

Discussion

The surgeon frequently faces challenges to acting at the right moment to reduce a paraumbilical hernia or correct an incarcerated one.

Acute abdomen perforations secondary to a foreign body obstruction are known, despite these being rare, such as digested hair (trichobezoar) [1]. They can be secondary to a penetrating foreign body that is sharp and pointed, like a chicken bone, fish bone, nails, razor blade, tooth pick or fish hook [2]. These occur more commonly in the small bowel and colon, mainly the Treitz, terminal ileum and rectosigmoid junction [3,4].

Old age, alcoholism, use of dentures and psychiatric illness carry a higher risk for foreign body ingestion [4].

Patients under medical care can develop a small bowel perforation too, although these are quite rare, for example, during a capsule endoscopy [5], nasogastric tube insertion [6] or gastric stent migration [7].

A perforation of the small bowel can be in an anatomical out pouch, like Meckel's diverticulum [8], or in a pathological out pouch similar to our case.

Some reports shows success in managing ingested small foreign bodies non-operatively with precautions [9].

The perforation could be into the peritoneal cavity as usual, or could be into adjacent organs, like the inferior vena cava [10].

There are instances in the literature of a chicken bone causing small bowel perforation in a Richter's hernia [11], Spigelian hernia [12] ventral hernia [13], femoral hernia [14], and inguinal hernia [15,16]. We could not find a correlation between a chicken bone as a cause of perforation of the small bowel within recurrent irreducible paraumbilical hernia.

Conclusion

Perforation of the small bowel within an irreducible paraumbilical hernia by a chicken bone is a rare entity. A patient with dental caries may be more likely to present with this clinical condition.

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