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Sigmoid Perforation Secondary to Accidental Ingestion of a Chicken Bone

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Abstract

Presentation
We describe an unusual presentation of sigmoid colon perforation secondary to an ingested chicken bone.
Diagnosis
The patient presented with a 4 day history of abdominal pain and distension. On examination there were signs of peritonism. Inflammatory markers were raised. Computed tomography revealed a linear density projecting through the wall of the colon.
Treatment
The patient underwent emergency laparotomy and a Hartmann's procedure. A chicken bone was found to be the causative foreign object.
Conclusion
Foreign body ingestion is an uncommon cause of sigmoid perforation which may mimic more common surgical presentations such as diverticulitis.

Introduction

Foreign body ingestion is a common, often unnoticed occurrence, observed more frequently in the paediatric population[1].

Approximately 80% of these foreign bodies pass through the GI tract without complication[2]. Upper gastrointestinal complications such as oesophageal obstruction/perforation are significantly more common than lower gastrointestinal sequelae. Bowel perforation occurs in less than 1%. Narrow, angulated areas are the most common sites, with sigmoid perforation being exceedingly rare due to its wide lumen and thick wall. We present an unusual case of sigmoid colonic perforation due to accidental ingestion of a chicken bone.

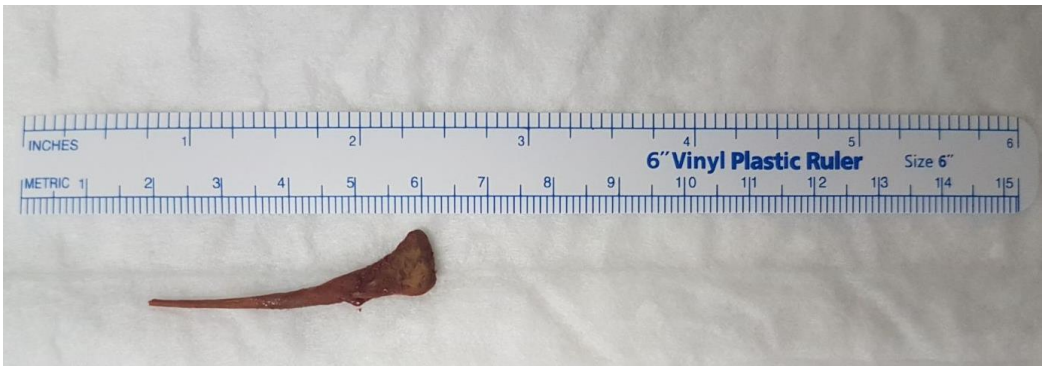
Case Report

An 81 year old female presented to a local hospital emergency department with a four day history of abdominal pain and distension. On examination there was left iliac fossa tenderness and guarding. Inflammatory markers were raised (CRP 356mg/L, WCC 15.5×10^9/L). A plain film of the abdomen revealed free air under the diaphragm. Computed Tomography of the abdomen and pelvis showed "*a large segment of diverticulosis with a 5cm high attenuation linear density projecting through the wall of the mesenteric colon".* The tip of the density lay *"in a multi-loculated collection measuring up to 8cm"* (Figure 1).

Figure 1. CT image with arrow pointing towards radiopaque foreign body

The patient was transferred to our centre and underwent emergency laparotomy. Intra-operative findings included a 4.25cm chicken bone (figure2) perforating the sigmoid, purulent lower abdominal peritonitis and dilated small bowel loops.

Figure 2. 4.25cm chicken bone



A sigmoid colectomy and peritoneal lavage were performed, the patient was left with an end colostomy. Post-operatively the patient was discharged to the intensive care unit where an acute kidney injury required a furosemide infusion. Following this she made a good recovery and was discharged home eighteen days post-operatively.

Discussion

In the majority of cases, ingested foreign bodies will become encased within a food bolus and pass safely through the alimentary canal[3].

These cases are best managed by "intelligent neglect" with the majority (80%) of those presenting to the emergency department not requiring intervention. Approximately 20% require endoscopic intervention. Surgery is required in less than 1% of cases with perforation being the only absolute indication for surgical intervention[2].

The ileocaecal valve is the most common site for foreign body perforation of the bowel due to its narrow lumen, thin wall and acute angulation, this is followed by the rectosigmoid junction. The wide lumen and thick wall of the sigmoid make it an extremely unlikely site for foreign body perforation[4]. Perforating foreign bodies may present in a wide variety of manners. Depending on the site of perforation, they may mimic other more common conditions such as

duodenal ulcer perforation or appendicitis. In this case, the patient had symptoms and signs consistent with acute diverticulitis. Patients will often have no recollection of ingesting the foreign body in question, as was the case with this patient. These factors may lead to an incorrect or delayed diagnosis and highlight the important role of radiological imaging.

Plain film radiography can often be of limited value as radiopaque objects are may be concealed by fluid or soft tissue[5]. CT has been shown to have a sensitivity of 100% and specificity of 91 %[6]. Surgical options for colonic foreign body perforation vary from primary repair to a Hartmann's procedure[7].

Declaration of Conflicts of Interest:
All authors declare no conflicts of interest.

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