

1731¹⁰. Claudius Amyand (1681-1740), a French surgeon, who was a refugee in England, was the first to perform an appendectomy^{13,11}. The appendix is found in the hernial sac in around 1% of inguinal hernias and an inflamed appendix is found in only 0.13% of cases.

A variant of this, an appendix inside a femoral hernia, is called a Garengoet hernia⁴. In 1937, Ryan described 11 cases of acute appendicitis (within an inguinal hernia) among 8,692 cases of appendicitis¹². Another author¹ reported 10 cases of appendicitis within an inguinal hernia over nine consecutive years.

The etiopathogenesis of acute appendicitis is unclear. Many authors believe there is an association between incarceration and inflammation of the cecal appendix in the hernial sac, that is, an ischemic phenomenon deriving from compression of the organ by the hernial ring leading to appendicitis¹⁴. Typical symptoms of acute appendicitis, such as initial epigastric pain settling later in the right iliac fossa, nausea, vomiting and anorexia may also be seen in patients with an Amyand hernia. According to the literature, fever and leukocytosis are not common in these patients¹³. Pre-operative diagnosis is unusual. In an article reviewing 50 cases of Amyand's hernia, only one case was diagnosed prior to surgery¹⁴.

The presence of peritoneal irritation and early pain in an incarcerated hernia may suggest appendicitis inside the hernial sac. The use of imaging methods may assist diagnosis⁴.

Surgery is mandatory. However, the kind of surgery recommended subject to controversy. In most circumstances, treatment involves an emergency appendectomy and repair of the hernia⁸. When there is a risk of complications, such as a pericecal abscess, the appendectomy should be pre-peritoneal to minimize possible infection of the wound and recurrence of the hernia².

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Carta ao Editor

ENDOSCOPIC REMOVAL OF FOREIGN BODY ABANDONED IN PRIOR LAPAROTOMY

Retirada endoscópica de compressa abandonada em laparotomia prévia

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INTRODUCTION

The actual incidence of foreign bodies retained in the abdominal cavity is not well known, as such cases are under-reported⁵. They occur even with highly experienced surgeons and may cause serious consequences. Related risk factors require the adoption of systematic preventive measures⁵.

This paper aims to report a case involving a surgical sponge abandoned after cholecystectomy that migrated into the duodenum and was successfully removed by upper digestive endoscopy.

CASE REPORT

A 26-year-old female patient underwent videolaparoscopic cholecystectomy converting to open surgery due to choledocholithiasis. Choledocholithotomy plus Kehr drainage was then performed. The patient had a good recovery, but after nine months she sought medical care presenting antropyloric obstruction syndrome (epigastric pain, recurrent postprandial vomiting, and weight loss).

Upper digestive endoscopy revealed the presence of a foreign body, probably a surgical sponge, in the gastric cavity, in the transpyloric region, blocking the passage of the equipment (Figure 1A). Abdominal CT scan (Figure 1B) revealed a well-defined mass located between the liver and the stomach, with mixed density, air bubbles in its inside, and spiral radiopaque stripes representing the sponge markers.

With a diagnostic hypothesis of pyloric obstruction caused by a foreign body, a new upper digestive endoscopy was performed in an attempt to remove the sponge, which was successfully done by snare polypectomy (Figure 2A). After the removal of the foreign body (Figure 2B) superficial esophageal lacerations were observed with self-limited bleeding and a blocked deep ulcer occupying almost all the anterior wall of the duodenal bulb, with no signs of cavity perforation.



FIGURE 1 – A) Upper digestive endoscopy showing the surgical sponge; B) CT scan aspect



FIGURE 2 – A) Moment of the endoscopic removal; B) removed sponge

The patient had a good recovery. Medicated with proton-pump inhibitors, she accepted oral feeding in the room one day after endoscopy. On the 8th day, a control upper digestive endoscopy showed that the ulcer size decreased with signs of cicatrization. The patient was then discharged from the hospital.

A new control endoscopy performed two months after discharge revealed undeformed duodenum and intact normal mucosa.

The patient presented no symptoms in the last appointment, 10 months after the removal of the foreign body.

DISCUSSION

Foreign bodies retained in the abdominal cavity are not always reported, as this may carry legal medical implications. As a consequence, their real incidence is unknown. It is estimated that there is one case in every 500 to 1500 intra-abdominal surgeries, that is, an incidence of approximately 0,15% to 0,2%.^{1,5}

Textile materials (gauze dressings and sponges) are the most commonly abandoned or unintentionally left foreign bodies in the abdominal cavity. The set comprising the foreign body and the surrounding tissue reaction is called gossypiboma or textiloma³.

Risk factors for foreign objects retained in the abdominal cavity are said to include: emergency surgeries, hemorrhage, operatory procedures altered from those initially proposed, participation of more than one surgical team during the procedure, the absence of number listings of surgical sponges and instruments, unsatisfactory anesthesia, inadequate material and infrastructure, surgeon's or team's tiredness, incomplete surgical teams, and obesity². This case report presents an initially videolaparoscopic cholecystectomy converted to laparotomy due to choledocholithiasis.

There are three possibilities of evolution in the natural history of foreign bodies retained in the abdominal cavity: 1) to be encapsulated by the reactive inflammatory fibrotic process with or without the formation of an abscess or fistula; 2) to be

removed by surgical incision; or 3) to migrate into the lumen of a hollow viscera (intestines, bladder, or vagina)^{3,5}.

The clinical picture varies greatly, as it depends on the type of reaction triggered by the organism in response to the presence of the foreign body. If a foreign body becomes encapsulated by the inflammatory process, it may have an asymptomatic evolution and be found in an imaging test in 30% of the cases. It may manifest itself as a poorly-defined palpable tumor or present intra-cavity abscess signs and symptoms⁵.

If the foreign body migrates to the intestinal lumen, the sick patient may present abdominal pain, or show signs of intestinal occlusion or sub-occlusion, or even excrete it via feces⁵.

CT scan is the gold standard diagnostic test for gossypiboma. Its features include spiral radiopaque stripes found in sponge markers and the spongiform appearance of the tumor with small air bubbles in its inside^{3,4}. A Ultrasonography and simple abdominal radiography can also suspect a diagnosis of a retained foreign object.

The treatment for retained foreign bodies in the abdominal cavity may be expectant when concomitantly the patient is asymptomatic and the surgery was performed a long time ago, with no signs of abscesses, or when its migration to the intestinal lumen indicates a spontaneous resolution¹. The removal of the foreign body is recommended when it is associated with relevant signs and symptoms or when diagnosis is made on the first days after surgery⁵. This procedure may be done by conventional surgery, using a laparoscopic or even endoscopic approach⁴, as in the case described here.

Preventive measures should be implemented to reduce its occurrence, such as: 1) the placement of Pean clamps on surgical sponge tapes, positioning them out of the abdominal cavity; 2) surgical sponge counting procedures (although this is not a fool-proof indicator as studies show cases in which counting was regarded as correct and even so sponges remained in the abdominal cavity); 3) after being given to a surgeon, a gauze dressing is supposed to be immediately returned to the surgical technologist's hands; 4) cavity inventory before closure; 5) use of radiopaque markers for textile materials; and 6) in case of doubt about a possible retention, radiography must be done in the operating room².

As for legal medical implications, abandoning foreign bodies in surgical procedures may result in civil and criminal charges. Naturally, medical errors must be investigated and considered in all dimensions. Generally, they are characterized as negligence⁵. Peer group attitudes must not cover up grave medical errors and negligent professionals.

On the other hand, it is unacceptable to prejudice and publicly execrate the medical professional without taking into account critical emergency situations, extensive surgeries, unsatisfactory conditions of the surgical environment, etc., all of which factors that may influence the conduction of the surgical procedure.

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