

# Retained surgical sponge mimicking GIST: Laparoscopic diagnosis and removal 34 years after original surgery

Jonatan W R Justo, Paulo Sandler, Leandro T Cavazzola

Department of Surgery, Federal University of Rio Grande do Sul, Porto Alegre, Brazil

Address for correspondence: Prof. Dr. Leandro Totti Cavazzola, Department of Surgery of Hospital de Clínicas of Porto Alegre, Federal University of Rio Grande do Sul, Ramiro Barcelos, 2350, Porto Alegre, Rio Grande do Sul, Brazil. E-mail: cavazzola@gmail.com

## Abstract

The term gossypiboma denotes a cotton foreign body retained inside the patient during surgery, a rare surgical complication. The symptoms following this entity are non-specific, such as pain, palpable mass and fever, which make clinical diagnosis difficult. The computerized tomography (CT) scan is the most useful method for diagnosis; however, sometimes the preoperative diagnosis remains uncertain even after the imaging exam. In that case, laparoscopy arises as a valuable diagnostic tool, as well as a prompt treatment option. However, when diagnosis is made years after the original surgery, the laparoscopic approach becomes harder. Our patient presented without clear symptoms, remaining asymptomatic for 34 years. The CT scan presumptive diagnosis was a gastrointestinal stromal tumour, and laparoscopy was performed providing an accurate diagnosis and treatment in the same surgical time.

**Key words:** Gossypiboma, laparoscopy, retained foreign body, textiloma

## INTRODUCTION

The term gossypiboma denotes a foreign body retained inside the patient during surgery. A minimally invasive technique and a highly effective therapy place

laparoscopy as an assertive option to approach cases without a definitive preoperative diagnosis. Our objective is to report a case of retained surgical sponge diagnosed and removed by laparoscopic surgery, 34 years after the original surgery.

## CASE REPORT

A 70-year-old man, with a medical history of vagotomy for a peptic gastric ulcer (operated in another institution 34 years ago), had an incidentally discovered mass in the abdomen on plain chest radiography. The mass was 8 cm diameter and was located on left hypochondrium. The only symptomatology was mild bloating, started a few months before. The computerized tomography (CT) scan showed a heterogeneous and low-density mass, with peripheral calcifications, measuring 7.4 cm diameter. The presumptive diagnosis made by the radiologist was gastrointestinal stromal tumour (GIST) [Figure 1].

Endoscopic biopsy provided no additional information about



Figure 1: CT scan showing an heterogeneous and low density mass, with peripheral calcifications, measuring 7.4 cm diameter, localized on left hypochondrium

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the mass etiology, evidencing signs of external compression without mucosal lesion.

The patient was then submitted to laparoscopy. During the procedure, dissection showed a capsulated structure. After violation of the capsule and drainage of debris, a retained sponge was discovered [Figure 2]. An aseptic plastic material was used to wrap it for laparoscopic removal.

## DISCUSSION

The incidence of this complication is 1 in 8801 to 1 in 18,700 surgeries.<sup>[1]</sup> In a prospective study, Greenberg *et al.* found that the frequency of counting discrepancy of sponges during surgery (i.e., a subsequent count does not match the previous one) was about one in eight operations, contributing to the occurrence of this complication.<sup>[2]</sup>

Concerning gossypiboma, prevention is preferred rather than treatment. Notwithstanding, there is no highly reliable prevention system. Counting sponges is a method based on staff communication during the surgery with only 77% sensibility.<sup>[2]</sup> Routine surgical postoperative X-ray (SPOX) constitutes an early detection system, but the need to incorporate a radiopaque marker and to expose the whole surgical field to maximize its efficacy limits its use.<sup>[2]</sup> More recently, electronic dispositives based on barcode detection and other technological adjuncts for counting sponges are being developed.<sup>[2-4]</sup> None of these prevention systems are reliable when used alone.<sup>[2]</sup>

Multiple procedures and surgical teams, long operations and non-elective operations are the evidenced risk factors.<sup>[2,3]</sup> The most common symptoms are pain, palpable mass and fever.<sup>[5]</sup> Because of its non-specific symptoms, diagnosis can be difficult (the differential diagnosis passes through a infinitude of other more prevalent diseases).<sup>[5]</sup> Therefore, facing a

patient with vague symptoms and a history of previous surgery, we must suspect of this iatrogenic complication.

Gossypiboma-related complications normally appear within 2 years after the original surgery.<sup>[3]</sup> There are reported cases whose diagnosis were made decades after original surgery – most of them with retained sponges localized in the thorax.<sup>[2,3]</sup> Accordingly, our case was an abdominal retained sponge, diagnosed 34 years after original surgery (asymptomatic in this period) and mimicking a GIST – transcending other literature reported cases.<sup>[3]</sup>

Since discrepancies on counting sponges register are frequently absent, the imaging exams become valuable for gossypiboma detection in an asymptomatic phase of the disease – avoiding diagnosis only after a related complication.<sup>[5]</sup> The CT scan is the most commonly used and the most useful method for diagnosis.<sup>[2]</sup> Awareness of typical appearance on radiologic exams is critical.<sup>[5-7]</sup> It appears on CT images with some characteristic signs: low-density heterogeneous mass, with an external high-density wall that is further highlighted on contrast-enhanced imaging and has a spongiform pattern containing air bubbles.<sup>[6]</sup>

Minimally invasive surgery for removal is successful within a few weeks of the original operation.<sup>[8-10]</sup> However, the technically difficult dissection needed (when adherence and inflammation are installed) demands an experienced surgeon to its laparoscopic removal feasibility (as demonstrated in our case).

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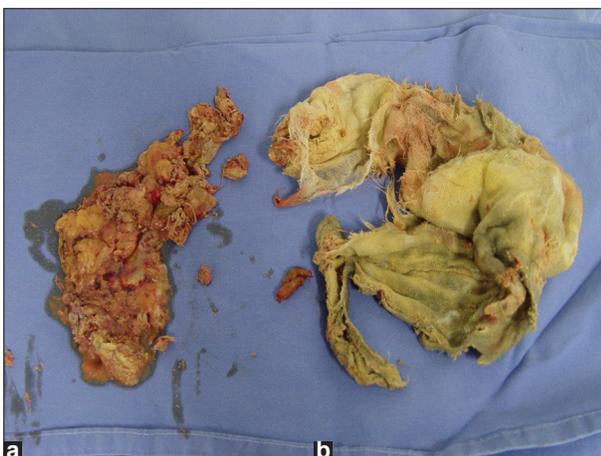


Figure 2: (a) Material that was involving the sponge and constituting a fibrous capsule; (b) The retained sponge discovered after 34 years

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