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Abdominal Gossypiboma Presenting as Probable Acute Appedicitis: A Case Report

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Abstract: ***Textiloma or gossypiboma is a term used to describe a mass formed by surgical textiles left inside a patient following a surgical procedure and the and the surrounding foreign body reaction. Its incidence has decreased considerably; however, its high legal and social impact has prompted its review. The clinical presentation is varied and nonspecific; the location, time of evolution, and type of inflammatory response affect a wide spectrum of clinical scenarios, from an incidental finding in imaging studies to a serious condition secondary to complications (abscesses, intestinal obstruction, sepsis, among others). In this context, imaging support is essential. Plain radiography is usually the initial approach due to its easy access and interpretation, but the radiopaque marker can disintegrate or become distorted over time. Computed tomography allows for greater diagnostic sensitivity, but it can easily be misinterpreted as a neoplasm, abscess, or hematoma if the distinguishing characteristics are unknown. The presence of a hypodense spongiform mass with bubbles inside and a wall that enhances with contrast, or a reticular mass surrounded by a calcified crust, should guide diagnosis. Textilomas are ultimately complex problems, not only from a legal and social perspective but also from a medical perspective, with imaging studies and a history of surgical procedure being the keys to a timely diagnosis.***

Keywords: surgery; foreign body; textiloma; gossypiboma; complication post – surgical

1. Introduction

Gossypiboma or textiloma is a term derived from Latin gossypium which means cotton and from Swahili boma, a hiding place. It is used to describe a remnant mass formed by textiles, such as cotton compresses or woven fabric, abandoned during a surgical intervention, along with the inflammatory reaction that surrounds them. Recently, the concept of "retained surgical elements" has been introduced, given the wide spectrum of materials used during procedures and their different compositions [1]. The focus of this review continues to be textiles such as gauze, compresses or surgical drapes, which constitute the most frequently forgotten surgical element and produce the condition classically known as textiloma [2]. Its true incidence is difficult to quantify, given the legal and social aspects surrounding the adequate reporting of a surgical complication of these characteristics [3]. There are no local estimates of its incidence, but international publications estimate that it could occur in 1 in every 100 - 5, 000 surgical interventions [4]. This entity represents a diagnostic challenge for clinicians and radiologists due to its nonspecific presentation and radiological findings, which are easily misinterpreted as other pathological entities (hematomas, abscesses, neoplasia, among others). The objective of this article is to present our experience with a clinical case.

2. Etiopathogenesis and Risk Factors

The reaction to a foreign body is largely determined by its composition and degree of antigenicity, in addition to host factors and the intensity of the immune response [5]. Two possible reactions are described in the case of textilomas. First, an exudative type, generated by an intense inflammatory reaction, with increased capillary permeability and a rapid increase in pressure on adjacent structures, which can lead to the formation of abscesses, collections, fistulas and even transmural migration of the textiloma into adjacent viscera [6, 7]. This type of reaction usually results in earlier clinical manifestations. Secondly, an aseptic fibrinous inflammatory reaction may occur, with a less intense inflammatory component. This leads to a chronic, usually asymptomatic process, with encapsulation of the foreign body and, eventually, the formation of adhesions, calcifications and granulomas [3 - 5]. Multiple risk factors have been associated with an increased incidence of retained surgical elements, but statistical evidence is often inconsistent across studies. Classically, risk factors include emergency procedures, unexpected changes during a procedure, patients with a high BMI, multiple major subprocedures during the intervention, and inadequate counting, among others [8]. New reviews have found no significant relationship between retained surgical elements and some of these factors, such as the time of

surgery, the emergency nature of the procedure, personnel changes during the procedure, and the patient's BMI [9, 10].

3. Case Presentation

A 21 - year - old woman who presents to the emergency department with abdominal pain as the only significant history reports gynecological surgery without specifying procedures and findings, two years prior to the current condition. She comes after 24 hours of evolution since the onset of symptoms, referring abdominal pain predominantly in the hypogastrium, associated with nausea, emesis on multiple occasions and fever quantified up to 38.4 ° C initially treated by a physician with analgesics and antiemetics without showing improvement, physical examination showed a flat abdomen with the presence of a suprapubic Pfannestiel - type scar, absent peristalsis, painful on generalized abdominal palpation, without data of peritoneal irritation, tympanic to percussion, during her diagnostic approach, paraclinical tests were taken with the result of a blood count: hemoglobin 16.5 g / dl, elevated leukocyte count 12.90 x10 [3;] Neutrophils 89%, bands 5%, platelets 347x10 [3,] negative pregnancy test, given the diagnostic possibility of acute appendicitis, a simple computed axial tomography of the abdomen and pelvis was requested, which reported an ovoid image in the abdominal cavity with well - defined margins, with heterogeneous density of predominantly hyperdense density that demonstrates a metallic marker towards its anterior portion of approximately 10x10 centimeters suggestive of textiloma (figure 1 and 2). Prophylactic antimicrobial therapy with third generation cephalosporin was initiated. she then underwent exploratory laparotomy where intra - abdominal adhesions Zuhlke IV are found, intra - abdominal tumor of approximately 10x10 cm covered by omentum with a thick fibrous capsule of approximately 1 cm, which compromised intestinal transit with a transition point at the level of the hepatic flexure, apparently containing surgical textile material which is sent to pathology with a positive result for surgical textile, presenting incidental intestinal disruptions compromising serosa at 290 cm, 380cm, 390 cm and 100 cm of the angle of Treitz, in her immediate postoperative period she remains fasting for 24 hours until gas cannulation, under antimicrobial coverage with a double regimen at the expense of third generation cephalosporin and azole with adequate clinical evolution, she is discharged from the service on the third postoperative day.

Figure 1: Coronal CT scan: ovoid image marked with a red circle in the abdominal cavity with well-defined margins, with heterogeneous density, predominantly hyperdense, demonstrating metallic marker towards its anterior portion of approximately 10x10 centimeters, suggestive of textiloma

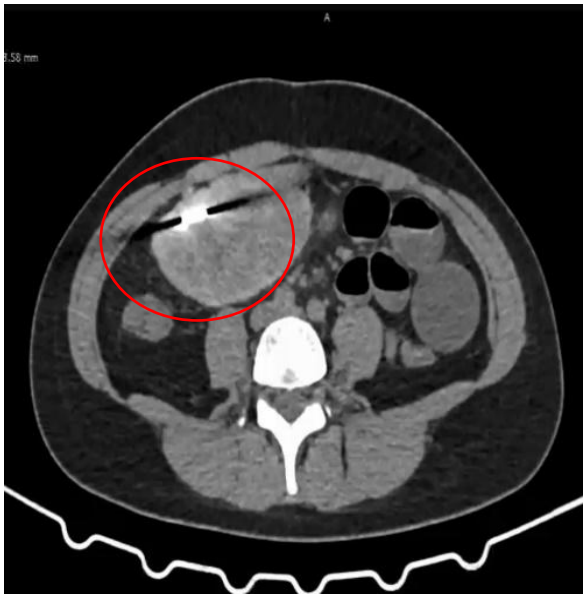

Figure 2: CT axial section ovoid image in abdominal cavity marked with a red circle

Figure 3: Transurgical image of textiloma

4. Discussion

As discussed at the beginning of this article, due to its high morbidity and mortality rates, textiloma has medical and legal implications; it causes patient death in 8% to 40% of cases.1[1 - 13, 16] The initial diagnosis in 90% of patients is made through a simple two - projection abdominal radiograph, while the remaining 10% will require advanced studies such as computed tomography, ultrasound, or magnetic resonance imaging.1[2, 14, 15] A study conducted by radiologists from the Ministry of National Defense documented the use of a two - projection abdominal radiograph for diagnosis in 50% of patients. Ultrasound was used in 30% and abdominal tomography in 80% of cases; likewise, all three studies were required in 30% of cases.1[4, 17] However, Franz et al. reported a case in which imaging studies were not sufficient and laparoscopy became essential as a diagnostic tool.1[3] Because the material of textilomas is nonabsorbable and there is no decomposition in the body, it generates two types of reactions: the first is an aseptic fibrinous response that

generates adhesions and causes encapsulation with the consequent formation of a foreign body granuloma; the symptoms presented in those patients in whom this type of reaction occurs are those of intestinal occlusion.1[1, 18, 19, 24] The second reaction is of the exudative type in which an abscess will form with or without added bacterial infection. Additionally, a fistula may develop that will drain the contents into a hollow viscus or to the exterior.1[2, 13, 15] There is a case described by Rubio et al. in the city of Camagüey, Cuba, of a textiloma retained in the abdominal cavity of a patient for 14 years, probably due to the harmlessness or absence of these defensive phenomena.2[5] Once diagnosed, the textiloma must be extracted. Open surgery has been the standard for the removal of foreign bodies, although ultrasound - guided extractions with percutaneous techniques, colonoscopy, and laparoscopy have been described.1[1, 18, 21, 26] Likewise, histopathological study has become the method of choice in some cases in which intraoperative findings do not confirm a diagnosis; as mentioned by Ouviña et al.2[7] Finally, in relation to prevention, counting textile materials before, during, and after the surgical procedure has become the best measure to avoid these cases, as mentioned by Baridó et al., with an estimated sensitivity of 77% and specificity of 99%. The importance of presenting this clinical case lies in the medicolegal implications of textiloma, which means it is rarely reported by the physicians involved. The authors hope that its publication will raise awareness of this condition and facilitate timely diagnosis.

5. Conclusion

Gossypiboma, while rare, remains a critical postoperative complication with potentially severe clinical and legal consequences. Prompt recognition relies on clinical suspicion supported by imaging studies, particularly in patients with prior surgical histories. This case emphasizes the importance of maintaining strict surgical protocols, such as thorough instrument and sponge counts, and encourages reporting such incidents to improve awareness and prevent future occurrences.

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