Gossypiboma of the abdomen: US and CT findings

A 50-year-old male patient presented with fever and abdominal pain, with a history of surgery for a sigmoid-rectal junction neoplasm. He was also found to have an abdominal mass located in the left flank region.

Imaging Findings:

A 50-year-old male patient presented to our observation with fever and an acute left flank pain. A laboratory examination was done, which evidenced an increased level of ESR (120 mm/h) and marked leukocytosis (21,000/mm³), both of which are signs of an important flogistic phenomenon in action. The clinical history revealed that the patient had undergone an anterior rectal resection, 20 days earlier, for the treatment of a neoplasm of the sigmoid-rectal junction. In order to obtain further clinical data, and in the attempt to evidence the cause of the pain, an abdominal ultrasound study was performed. In our case, ultrasound scan showed the presence of a thick curvilinear hyperechoic band with distal acoustic shadowing, in the left flank region. The internal architecture of these bands showed multiple linear and amorphous hyperechoic interfaces. A subsequent multi-slice CT examination was necessary to confirm the diagnostic hypothesis. The results of a non-enhanced CT scan showed the presence of an encapsulated hypodense mass with multiple air bubbles within the mid-left abdominal region, that was related with the abdominal wall, the tail of the pancreas and the front face of the left kidney. Moreover, some hyperdense structures were described. After the administration of a contrast medium, the mass was seen to be surrounded by a thickened and hypervascular wall.

Discussion:

Gossypiboma is the technical term for a retained surgical sponge. It is derived from the latin "gossypium" (cotton) and the swahili "boma" (place of concealment). A synonym for this word is textiloma, which combines the word textile (until recently most surgical sponges were made of cloth) and the suffix oma, meaning a tumor or growth. Gossypibomas are rarely documented, owing to medical, legal, and other reasons. The literature shows that foreign bodies retained in the abdominal cavity include sponges, towels, artery forceps, pieces of broken instruments or irrigation sets and rubber tubes. A surgical sponge constitutes the most frequently encountered object (69%) because of its common usage and small size. Around 50% of retained gauze pieces are discovered after at least four years of the surgery. The presentation may be acute or relatively delayed. Acute presentations generally follow a septic course with abscess and fistula formation. Delayed presentation may follow years after original surgery, with adhesion formation and encapsulation by a granulation tissue. Eventually, it may produce various complications
leading to its discovery, such as obstruction, peritonitis, adhesions, fistulas, abscess formation and erosion into the gastrointestinal tract. The imaging features of retained intra-abdominal gauze piece are found to be variable. Ultrasounds may be helpful, both in B-mode and color-Doppler mode: a sponge typically appears as an irregular echogenic structure with strong, extensive posterior acoustic shadowing and with the absence of a vascular pattern inside the lesion but only around it (granulation tissue), but usually a multi-slice CT examination is required. Before the contrast medium administration there is a non-specific appearance of a mass or a complex fluid collection and its differentiation from a hematoma or an abscess is difficult. CT scans may be useful to reveal hyper-dense markers often sited inside the gauze: this is an important finding for the differential diagnosis. The gauze piece shows a strong rim enhancement after an intravenous contrast medium administration: the lesions are fairly well-circumscribed with a densely enhancing wall, and the gas trapped in the fiber meshwork of the gauze causes a whirl-like pattern of the lesion. In conclusion, gossypiboma is a rare finding, but the literature shows that it is an important reality to be evaluated in differential diagnosis, especially in patients with anamnesis of emergency surgery, abdominal or pelvic surgery and with greater body mass index (BMI). CT and US are important diagnostic instruments for the detection of gossypiboma in these cases, sometimes obviating the need for further invasive exams.

**Differential Diagnosis List:** Gossypiboma.

**Final Diagnosis:** Gossypiboma.

**References:**


Figure 1

Description: An ultrasound image showing a thick curvilinear hyperechoic band with distal acoustic shadowing in the left flank region. **Origin:**
Description: An ultrasound image obtained with a color-Doppler, showing that a vascular pattern is present only around the lesion, and not inside it. Origin:
Figure 3

Description: A non-enhanced CT scan showing an encapsulated hypodense mass with multiple air bubbles and hyper-dense markers, located inside the gauze. Origin:
Description: A non-enhanced CT scan showing an encapsulated hypodense mass with multiple air bubbles and hyper-dense markers, located inside the gauze. Origin:
Figure 4

Description: A post-contrast CT image showing the lesions to be well-circumscribed, with a densely enhancing wall. Origin:
Description: A post-contrast CT image showing the lesions to be well-circumscribed with a densely enhancing wall. Origin: