GASTRIC GOSSYPIBOMA:

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Introduction

Gossypiboma is the technical term for a surgical complication resulting from foreign materials, such as a surgical sponge, accidentally left inside a patient's body. The term "gossypiboma" is derived from the Latin gossypium (cotton) and the Swahili boma (place of concealment) and describes a mass within a patient's body comprising a cotton matrix surrounded by a foreign body granuloma.[1]

The actual incidence of gossypiboma is difficult to determine, possibly due to a reluctance to report occurrences arising from fear of legal repercussions, but retained surgical sponges is reported to occur once in every 3000 to 5000 abdominal operations.[2] The incidence of retained foreign bodies following surgery has a reported rate of 0.01% to 0.001%, of which gossypibomas make up 80% of cases.[1]

Case Report

A 40-year-old woman who had undergone chole-cystectomy six months earlier, was referred to our center with complaints of epigastric pain and recurrent episodes of vomiting for one week.

Ultrasonography (US) was done which showed an echogenic mass at gastric antrum and also the dilated stomach. Then she was referred for Barium meal examination to ruleout gastric outlet obstruction.

The Barium meal showed a polypoidal growth obstructing the gastric antrum resulting in gastric outlet obstruction and proximal dilation of gastric lumen. The patient was then referred for upper gastrointestinal endoscopy which revealed a protruding mass in the gastric antrum and duodenum. On removal it was found to be a surgical sponge, the gossypiboma. Biopsy showed foreign body surrounded by giant cell reaction (Fig.1-4).

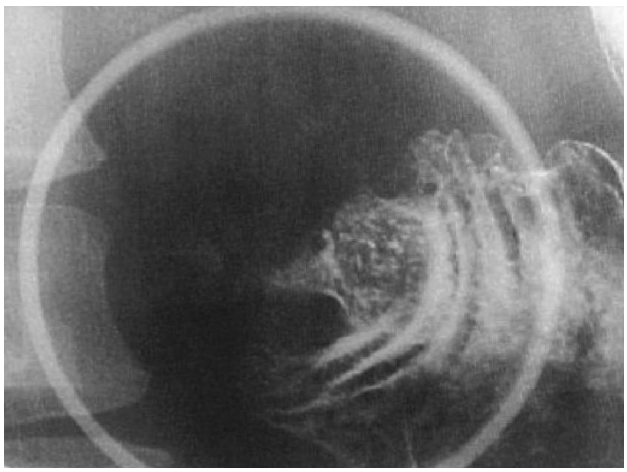

Figure 1: Barium meal series image shows well defined whirl like filling defect at pylorus.

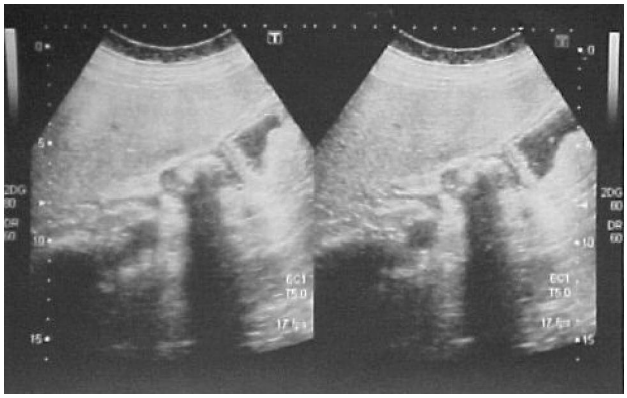

Figure 2: Ultrasound shows echogenic mass lesion with posterior acoustic shadowing.

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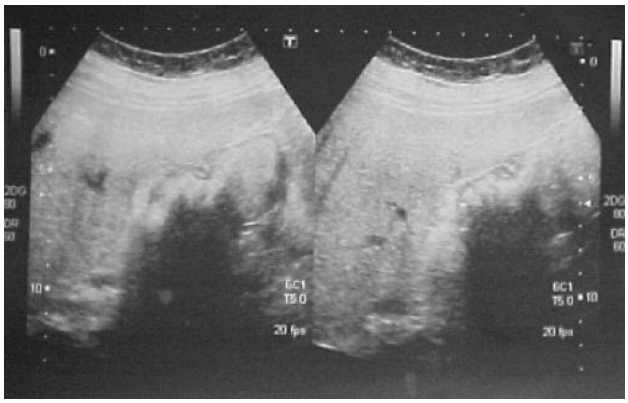

Figure 3: Ultrasound shows echogenic mass lesion with posterior acoustic shadowing.

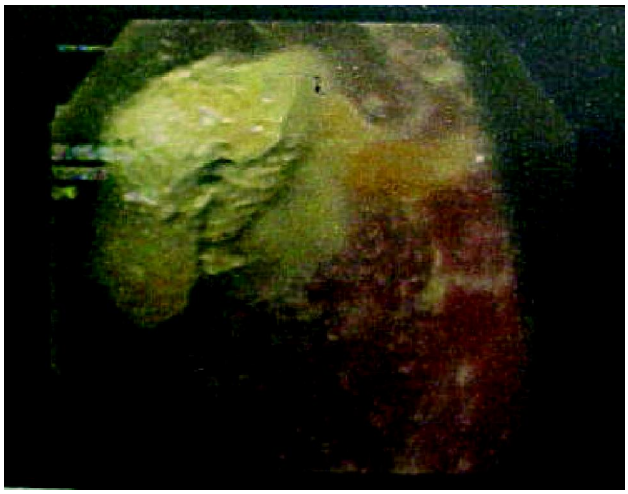

Figure 4: Endoscopy image shows cotton thread foreign body.

Discussion

Two usual responses lead to the detection of a retained sponge. The first type is an exudative inflammatory reaction with the formation of an abscess and usually leads to early detection and surgical removal. The second type is aseptic with a fibrotic reaction to the cotton material and development of a mass.[3]

Patients develop symptoms of abdominal pain, nausea, vomiting, anorexia, and weight loss. Patients can also present with an abdominal mass, sub acute intestinal obstruction, fistulae, free perforation or even extrusion.[4]

The gossypiboma can migrate into the ileum, stomach or colon without any apparent opening in the wall of these luminal organs, causing complete or incomplete intestinal obstruction.[5]

Gossypiboma in the abdominal cavity may lead to adhesion, abscess formation, intestinal perforation and other severe complications. The differential diagnosis of gossypiboma includes faecaloma, haematoma, abscess formation and malignancy.[6]

Plain abdominal radiographs reveal a whirl like pattern due to radioopaque threads which has been described as being characteristic of retained sponges.[7]

Barium studies for intraluminal gossypiboma in GIT show the intraluminal extent of the mass as a well-defined irregular filling defect in the gastrointestinal tract. The margin of the bowel beyond the lesion cannot be seen, suggesting that the mass is either attached to that margin or has extensions beyond that margin. Fistulous tract can be demonstrated by the Barium studies.[6]

Ultrasound shows a reniform mass with an echogenic center and hypoechoic rim. A central echogenic area represents the retained foreign body which strongly attenuates the sound waves, thus creating an intense and sharply delineated acoustic shadow.[8]

CT scan will show a foreign body as a round, sharply outlined mass with a thick dense, enhanced wall. The center of the lesion has heterogenous densities with a wavy, striped and/or spotted appearance, mottled calcification and gas bubbles created by a whirl like hypo and hyperdene structure.[9]

Gossypiboma on MRI manifests as a well-defined mass that shows a peripheral wall of low signal intensity at T1- and T2-weighted imaging and enhancement at contrast-enhanced T1-weighted imaging. The whorled stripes within the central portion characteristically show low signals at T2-weighted imaging and the serrated contour in the inner border of the peripheral wall shown at contrast-enhanced T1-weighted imaging.[10]

On PET scanning the rim-shaped FDG uptake represents the thick wall with an aseptic fibroblastic reaction and complete encapsulation, the central “nidus” without FDG uptake represents the cavity packed with blood clots and the sponge. The “rim” pattern of FDG uptake is quite characteristic, although not specific, for gossypiboma and should trigger suspicion of this diagnosis in any postoperative case with a “solid” mass.[11]

Conclusion

In this case report we present a case of retained foreign body within the gastric lumen after cholecystectomy. Retained foreign body should be considered in the differential diagnosis of any postoperative patient who presents with pain, infection, vomiting or palpable mass. Intraluminal gossypibomas can be diagnosed by using ultrasound and Barium studies. Other radiological modalities also show the characteristics appearances.

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