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Case Report

Transvisceral migration of gossypiboma presenting as gastric outlet obstruction managed endoscopically

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ABSTRACT

A cotton matrix retained in a body cavity following surgical procedures is termed as gossypiboma or textilloma. It may have variable presentations such as abdominal mass, fistula, abscess or sometimes even with non-specific complaints. Transvisceral migration however is a rare event. We report a case of spontaneous transvisceral migration of gossypiboma following open cholecystectomy presenting with gastric outlet obstruction. A large sized sponge was found impacted in the pylorus on upper gastro-intestinal endoscopy. The sponge was retrieved endoscopically and the patient was relieved of his symptoms thereafter.

Keywords: Transvisceral migration, Gossypiboma, Gastric outlet obstruction

INTRODUCTION

Gossypiboma or textiloma is the term used to describe a retained surgical sponge, commonly in the abdominal cavity. The term gossypiboma is derived from the Latin term "gossypium" which means cotton, and "oma" which means tumor or swelling in Greek. Wilson had first described retained foreign bodies following laparotomies in 1884.[1] Recent literature however reports the incidence to be one in 5500 operations.[2] While the most commonly reported in the abdominal cavity following obstetric and gynecologic procedures, however there have been reports of gossypiboma retained in thoracic cavity, breast and even extremities.[3]

GI complications following a retained sponge can vary from non-specific complaints to obstruction or fistulae formation or even septic shock.[3] Transvisceral migration of retained surgical sponge is however a rare event.[4] We are reporting a case of spontaneous transvisceral migration of sponge retained following open cholecystectomy which presented with gastric outlet obstruction.

CASE REPORT

A 50 year old male presented in Emergency Department of our institute with chief complaints of intermittent pain in mid and right upper abdomen for last six months along with several episodes of nonbilious vomiting for one month. There was history of weight loss and loss of appetite. There was no history of hematemesis or malena. Patient had been operated for open cholecystectomy 6 months back.

General physical examination of patient was essentially normal. On abdominal examination a transverse scar mark was noted in right hypochondrium. Mild tenderness and minimal muscle guarding was felt in right hypochondrium. All routine hematological and biochemical investigations were normal. There was no anomalous finding on abdominal ultrasonography. A barium meal was done which was suggestive of pyloric obstruction as shown Figure 1.

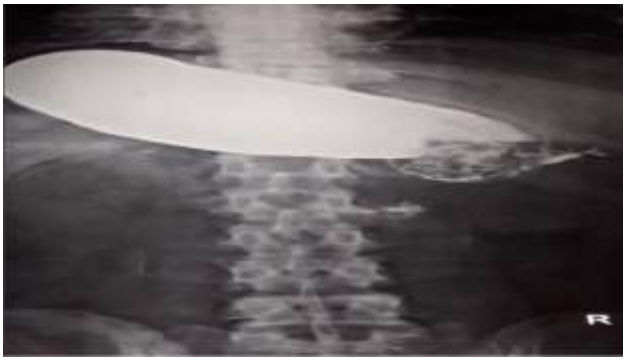

Figure 1: Barium showing evidence of obstruction at the level of pylorus.

Patient was further investigated with upper gastro-intestinal endoscopy which revealed a large surgical sponge coiled and impacted in the pyloric region as given in Figure 2. The sponge was subsequently retrieved with foreign body forceps and basket.

Figure 2: Endoscopic image showing gossypiboma causing obstruction at the level of stomach.

Figure 3: Endoscopic image of stomach after removal of sponge showing inflammed mucosal surface.

Upon retrieval, the sponge measured 25×23 cm as in Figure 4. Duodenal mucosa was inflamed but there was no evidence of perforation or fistula or hemorrhage as shown in Figure 3. Following the procedure the patient was able to accept oral feeds on day 2 and was subsequently discharged uneventfully. Patient had no complaints on follow up.

Figure 4: Image of extracted sponge measuring 25×23 cm.

Over all 70 patients of colorectal malignancies were included in this study. The detailed records were obtained from MRD section. The patients were also contacted by post or by telephone as and when necessary for their follow-up. All the data were analysed using the necessary statistical calculations, the result were then presented.

DISCUSSION

The commonly retained foreign bodies following surgical procedures include sponge, rubber tubings, parts of instruments, needles, etc. The reported incidence of retained foreign bodies is 0.01% to 0.001%.[5] However retained surgical sponge or gossypiboma encompass upto 80% of such cases.[5] However, the actual incidence of such cases may be much higher due to under reporting in view of medico legal implications of such an event.

Although gossypiboma have been reported to occur in thoracic cavity, breast, even neurosurgeries, however most commonly it is seen following hysterectomies, appendicectomies and cholecystectomies. As many as 88 percent of such cases have been found to occur with "correct" surgical counts.[6]

Factors which have been attributed to textiloma include obese patients, change in nursing staff during the procedure, emergency procedures especially damage control surgeries and increased blood loss.[6]

Two major types of reaction occur in response to retained surgical foreign bodies. 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.[7] In the abdomen the sponge can be surrounded by omentum and intestines, which attempt to encapsulate it. This may be followed by pressure necrosis of the bowel wall and the sponge may erode partially or entirely into the lumen of the bowel. While the perforation closes with fibrotic reaction, the sponge itself may advance further into the gut with peristaltic activity and may get impacted in the terminal ileum. This process can lead to obstruction or fistula and patient usually develops symptoms such as

abdominal pain, nausea, vomiting, anorexia, and weight loss resulting from obstruction. Malabsorption may also be caused by the multiple intestinal fistulas or intraluminal bacterial overgrowth. More complications are observed in the exudative type, the common ones being bowel obstruction, perforation, pseudotumor, granulomatous peritonitis, bleeding.[8] Symptoms may not present for long periods of time, sometimes months or years following surgery.[9] 40% are detected within 1 year of surgery, while 50% are detected after 5 years of surgery. Nearly 30% patients may remain symptom free and gossypiboma may be discovered incidentally.

A 'whorl' like pattern or peripheral calcifications may be seen on abdominal radiography. If however the sponge is labeled with a radiopaque marker then it can be easily detected with X ray.[3,7] If the sponge used does not have a marker, then ultrasonography is usually the first investigation performed for a patient presenting with a chronic dull aching abdominal pain. Textiloma may be seen as a hypoechoic ring with internal echoes along with a post-acoustic shadow. The investigation of choice for diagnosis, as well as evaluation of complications, is computed tomography which may show a hetergenous mass with a 'spongiform pattern' and air bubbles.[3]

To prevent gossypiboma, sponges are counted by hand before and after surgeries. This method was codified into recommended guidelines in the 1970s by the Association of peri operative registered nurses (AORN).[10] Four separate counts are recommended: the first when instruments and sponges are first unpackaged and set up, a second before the beginning of the surgical procedure, a third as closure begins, and a final count during final skin closure. In most countries, surgical sponges contain radiopaque material that can be readily identified in radiographic and CT images, facilitating detection.[10] Some surgeons recommend routine postoperative X-ray films after surgery to reduce the likelihood of foreign body inclusion.

CONCLUSION

If intraperitoneal foreign body erodes through duodenal wall, usually erosion, ulceration, bleeding, fistula, abscess, foreign body granuloma preceeds obstruction. But in our patient, foreign body migration occurred leaving no evidence of bleeding, fistula or abscess. Despite migration of large foreign bodies, abscess or peritonitis never manifested clinically. As a result, ultimate manifestation was gastric outlet obstruction. We believe this is a rare case of gastric outlet obstruction caused by transmural migration of a retained sponge after open cholecystectomy. Even after extensive search of medical literature, we are able to find only a few cases of this rare cause of gastric outlet obstruction and retrieving such a big surgical sponge through endoscopy without the need of gastrotomy is still rarer.

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