

Gossypiboma: An Unusual Presentation as Perforation and Intraluminal Migration

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ABSTRACT

Gossypiboma is a mass formed around cotton material acting as foreign body in visceral cavity. In our study, we present a case of gossypiboma following open cholecystectomy. A surgical sponge left in the peritoneal cavity following cholecystectomy, caused inflammatory reaction, perforation and intraluminal migration. It is a relatively rare presentation. This patient underwent emergency laparotomy with Billroth II anastomosis and sponge removal.

Keywords: Billroth II, Foreign body, visceral cavity

CASE REPORT

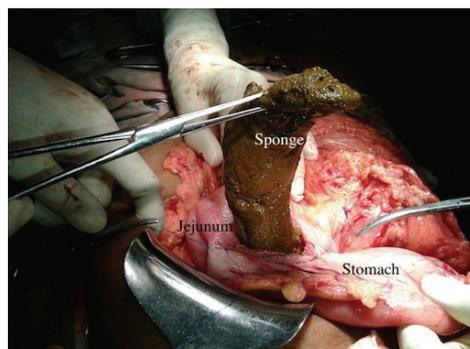
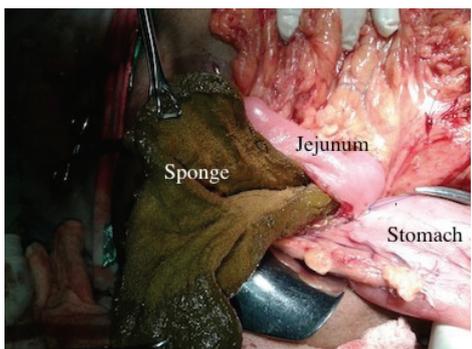
A 70-year-old female was admitted to the surgical ward with chief complaints of pain in abdomen, diarrhoea, since 4 days. Patient was undergoing treatment as a case of gastroenteritis in a private setup till the appearance of guarding and rigidity denoting a surgical cause. Pain was generalised in nature. Patient had a history of an open cholecystectomy 2 month back in a private hospital.

On admission patient was dehydrated, pale with pulse of 110/minute and blood pressure of 90/60mmHg. On abdominal examination tenderness, guarding & rigidity was present all over the abdomen. X-ray chest showed evidence of free gas under diaphragm suggestive of perforative peritonitis. Patient was started on intravenous antibiotic and resuscitated with intravenous fluid. A high risk consent was taken in view of old age and preoperative haemodynamic instability for exploratory laparotomy for perforative peritonitis. Intraoperatively there was 200cc bilious contamination along with a 5x3cm perforation on the anterior wall of first part of duodenum. In view of the large perforation, a decision to proceed with billroth II anastomosis was taken. However after resection, when an enterotomy (jejunotomy) was performed for gastrojejunostomy, an intraluminal mass was found in mid jejunum which when removed turned out to be a surgical sponge. Intraoperative images were taken and it was brought to the notice of the assisting surgeons, sister and findings were informed to seniors. The sponge was removed meticulously [Table/Fig-1,2] and gastro-jejunostomy was eventually performed. A detailed note of the same was made in the operative notes along with the date and time of the findings. A medico-legal entry was made in the hospital records and the sponge was handed over to the police authorities after notifying and showing it to the relatives [Table/Fig-3]. The relatives of the patient were unwilling to pursue the case further. Postoperatively patient

was kept on ventilator and haemodynamic support. Patient could not be weaned off it. Progressive deterioration of all clinical and laboratory parameters were observed over next two days and this resulted in cardiac failure on postoperative day 2 following which the patient died.

DISCUSSION

Retention of surgical mop or sponge in the visceral cavity is called gossypiboma. True incidence rate is not known as there is under-reporting of cases due to medicolegal implications. It usually occurs at frequency of one in 100 to 3000 cases [1]. In Latin, "gossypium" means cotton and in Swahilli, "boma" means place of concealment [2]. Gossypiboma is a foreign body mass formed around cotton or surgical sponge missed in abdomen following any surgical procedure. Cotton in the abdominal cavity acts as a foreign body and incites inflammatory response. It has various presentations in the body [3]. It can form an abscess which may present as localised collection or generalised peritonitis. Patients with peritonitis require emergency exploration for the same. Localised abscess cavity may have fistulous communication with bowel or skin. Patient may remain asymptomatic and diagnosed incidentally when radiological imaging is performed for some other cause. The average duration of time between the initial operation and the manifestation of symptoms is 11 to 28 days [4]. Relatively less common presentation is perforation of hollow viscus specially bowel with intraluminal migration [5]. In these cases patients usually present with symptoms of perforative peritonitis or obstruction. Patients presenting with obstruction or perforation are usually taken up for emergency surgery and diagnosed intraoperatively to be having gossypiboma. Patients presenting with abdominal pain and mass usually require ultrasonography (USG) or computed



[Table/Fig-1]: Surgical sponge being removed from jejunum. **[Table/Fig-2]:** Sponge removed from enterotomy site. **[Table/Fig-3]:** Sponge.

tomography (CT) scan for diagnosis. CT appearance is that of a round mass with whorl like appearance [6]. This condition can be managed by either laparoscopy or laparotomy [7]. Intraluminal migration is an even rare presentation.

As per the Association of perioperative Registered Nurses (AORN) four separate counts are recommended, the first when instruments and sponges are unpacked 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.

Gossypiboma has medicolegal implications. The fact that surgical foreign body has been retained is in itself a proof of negligence. If a surgeon comes across such a case while operating it is imperative to maintain a written record and a photograph of the concerned Mop/Sponge intraoperatively. Senior Surgeons & the Administration of the Hospital must be informed along with the relatives maintaining an unbiased opinion. A medico-legal entry is essential to prevent any allegation of negligence on your part.

CONCLUSION

Gossypiboma should be considered as a differential diagnosis in patients presenting with post-operative pain or lump in abdomen when other causes have been ruled out. It can be managed either by open surgery or laparoscopic method. In case of intraluminal

migration, if patients' condition permits, perforation can be closed laproscopically followed by endoscopic removal of sponge. This negligence can be avoided by vigilance of the surgeons and nursing staff washed up for the case. Thorough mop/sponge count at the end of the procedure is required. A quick glance before abdominal closure by the operating or assisting surgeon in the abdominal cavity can prevent such occurrence. Use of radiotracer or bar coding over sponges can also be used for counting at the end of surgery.

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