

## **Gossypiboma Presenting as a Sterile Abscess**

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**We present a case of a chronic abdominal pain which was due to a retained surgical sponge 4 years after an open cholecystectomy. A review of literature was done with emphasis on the incidence and factors contributing to such entity. The medicolegal aspect was discussed.**

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Retained postoperative foreign bodies, of which sponges are the most common. It is rare but dangerous error following neurosurgical operations<sup>1</sup>. Retained gauze or other foreign bodies seem to be common in general and gastro-intestinal surgery and to lesser extent in gynecology and obstetrics and orthopedics operations. The term “gossypiboma” has been adopted because of the fear of retained sponge (RS) causing gossip on surgeons<sup>2</sup>.

The incidence ranges from 1 in 100 to 1 in 5000 operations. Foreign bodies are left in surgical patients in one out of every 1,000 to 1,500 intra-abdominal procedures. This corresponds to one or more cases each year for a typical large hospital<sup>3</sup>. The rate is likely to be underestimated because it was calculated through malpractice claims.

Gawande et al found foreign bodies in the abdomen, pelvis (54%), vagina (29%), extremities (17%), thorax (7.4%) and elsewhere including the spinal canal, face and brain; no retained items in laparoscopic or endoscopic procedures<sup>3</sup>. They reported that when object was lost and a count was performed, the count was thought to be correct in 88% of the cases.

The aim of presenting this case is to increase the awareness of the medical community to a common human error during surgery.

### **THE CASE**

A thirty-six-year-old female presented with recurrent right upper abdominal pain for 3 years. The pain was dull, radiating to the back, lasting for hours and not associated with other gastrointestinal symptoms. Three months prior to her admission, the pain increased in frequency and in severity. It was associated with frequent vomiting but no fever or other constitutional symptoms.

She had an open cholecystectomy 4 years ago in another hospital. Her family and social histories were not remarkable. On examination, she was afebrile and she had stable vital signs. Her systemic examination was within normal but her abdomen showed right subcostal

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incision (Kocher), a round, smooth, non-tender and non-pulsatile mass. It measured 4x5 cm occupying the right upper quadrant and it was not moving with respiration. Complete blood count, liver function test, renal function test, amylase and lipase levels were within the normal limits. Hydatid titer was negative. Her plain abdominal X-ray showed a radio-opaque shadow, see figure 1. Computed Tomography (CT) of the abdomen (oral and intravenous contrasts IV) showed a large well defined cystic lesion of fluid density in the mid abdomen displacing the bowel, see figure 2. ERCP was done and it was normal, see figure 3.



**Figure 1(a)**



**Figure 1(b)**

**Figure 1(a, b): Abdominal X-ray Demonstrating an Abnormal Shadow in the Right Upper Quadrant**



**Figure 2: CT Scan of the Abdomen Showing the Collection of Fluid (The Sterile Abscess) and Part of the Retained Sponge**



**Figure 3: ERCP Demonstrating Intact Biliary System with No Leak and Retained Sponge**

The patient had exploratory laparotomy, which revealed a large cystic lesion occupying hepatorenal area adherent to the anterior abdominal wall, stomach and duodenum. The mass was containing 600 ml of thick pus and a retained surgical sponge (gossypiboma). Complete drainage and excision were achieved, see figure 4. The culture revealed no growth. Her postoperatively course was uneventful and she was discharged in satisfactory condition. Her regular follow-up revealed complete resolution of her symptoms.



**Figure 4: Operative Specimen of the Retained Sponge**

## **DISCUSSION**

The gossypiboma causes ileus due to adhesions. If infected secondarily, they form a septic abscess and may give rise to fatal complications. More often, the body reacts to the foreign substance with formation of an aseptic granuloma. The foreign body generally remains in the body and do not cause symptoms; therefore, they are usually detected accidentally<sup>4</sup>. The time interval to clinical presentation ranges from the immediate postoperative period to decades after surgery.

The presentation may be vague abdominal pain, obstruction in GIT or biliary systems or sepsis. However, the patients may remain asymptomatic for as long as several decades<sup>2</sup>. The symptoms usually consist of abdominal palpable mass, pain, nausea and vomiting, rectal bleeding or diarrhea and general symptoms such as fever and weight loss<sup>5</sup>.

A correct preoperative diagnosis of retained foreign body is made in about one-third of cases, depending on the form of presentation (septic, obstruction or space-occupying lesion). Often the presumptive diagnosis is that of a tumor. Failure to make a correct preoperative diagnosis leads to an unnecessary aggressive invasive procedure<sup>6</sup>.

Currently, surgical sponges are labeled with radioopaque markers, which facilitate their detection. Plain X-ray, Ultrasonography (US) and CT scan contribute significantly to the detection of gossypibomas; magnetic resonance imaging is less used technique. Incidence of retained foreign body significantly increases in emergencies, unplanned changes in procedure, higher body mass index, change in nursing staff during the procedure, team fatigue and surgeon's refusal for a repeat count<sup>7</sup>.

Butler et al found that the most common error is one of documentation, errors occur more commonly in cardiovascular and general surgery and that they often involve needles. Findings indicated that inexperienced staff, lengthy cases, the involvement of more than one scrub nurse, and two procedures being conducted simultaneously may also increase the likelihood of count errors<sup>8</sup>.

The retention of sponges and instruments is considered by many as avoidable. Increasing litigation in recent years makes it more necessary for the surgeon to be on his guard against actions or omissions that might be construed as professional negligence<sup>2</sup>. To the courts, a retained item is an open-and-shut case of negligence<sup>9</sup>. Mortality rates resulting from retained items have been found to be as high as 11 to 35%.

## CONCLUSION

**Retained items have been reported to cause bowel perforations, organ damage, sepsis and acute pain.**

**We reported a case of retained foreign body for four years after an abdominal surgery.**

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## REFERENCES

1. Ribalta T, McCutcheon IE, Neto AG, et al. Textiloma (Gossypiboma) Mimicking Recurrent Intracranial Tumor. *Arch Pathol Lab Med* 2004; 128(7): 749-58.
2. Mohammadi AA, Yarmohammadi H. Forgotten Surgical Sponge (Gossy-piboma), Removed 5 Years Later. *Saudi Med J* 2006; 27(4): 547-8.
3. Gawande AA, Studdert DM, Orav EJ, et al. Risk Factors for Retained Instruments and Sponges after Surgery. *N Engl J Med* 2003; 348(3): 229-35.
4. Kokubo T, Itai Y, Ohtomo K, et al. Retained Surgical Sponges: CT and US Appearance. *Radiology* 1987; 165(2): 415-8.
5. Aldemir TM. The Mistakes of Surgeons: "Gossypiboma". *Acta Chir Belg* 2003; 103: 71-5.
6. Kokubo T, Itai Y, Ohtomo K, et al. Retained Surgical Sponges: CT and US Appearance. *Radiology* 1987; 165(2): 415-8.
7. Kaiser CW, Friedman S, Spurling KP, et al. The Retained Surgical Sponge. *Ann Surg* 1996; 224(1): 79-84.
8. Lauwers PR, Van Hee RH. Intraperitoneal Gossypibomas: The Need to Count Sponges. *World J Surg* 2000; 24(5): 521-7.
9. Ersoy H, Saygili OB, Yildirim T. Abdominal Gossypiboma: Ultrasonography and Computerized Tomography Findings. *Turk J Gastroenterol* 2004; 15(1): 65-6.