

## Intra-Abdominal Gossypiboma found during Cholecystectomy, 12 years after Lower Segment Caesarean Section

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### Abstract

Retained Surgical Foreign Bodies (RSFBs) is an uncommon event in the surgical practice. Most of them occur after intra-abdominal and pelvic surgeries. They usually present within days after surgery but their incidental discovery after decades has also been reported. We present a case of a 44-year-old obese and diabetic female patient who presented with clinical and radiological findings of chronic calculus cholecystitis. She had past surgical history of Lower Segment Caesarean Section (LSCS) 12 years back, followed by a negative laparotomy. During her open cholecystectomy procedure, a hard mass was found between the small bowel loops. When removed and examined, it was found to be a retained surgical sponge which was most likely left in her body during prior LSCS procedure. Asymptomatic, uncomplicated and (ultrasonographically) undetected nature of RSFB in our case suggests its consideration and careful search if there is past history of intra-abdominal or pelvic surgery.

**Keywords:** Laparotomy, foreign bodies, surgery.

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### Introduction

Like any other profession of the world, medical science is also prone to errors. Anyone who has ever been to an operating room would be familiar with the term "Retained Surgical Foreign Bodies (RSFBs)". It refers to the retention of any foreign body inside patient's body during any surgical procedure. These items can include surgical instruments like forceps, scissors, needles, etc. and other surgery related items such as sponges, towels, cotton, etc.<sup>1,2</sup>. Although underreported, the incidence of these events is 0.3-1 per 1000 abdominal surgeries<sup>3</sup>. Not only it can harm the patient in a number of ways but it can also have serious professional and medico-legal implications<sup>2-4</sup>. It

can present early within few days, lately after few (usually 2) years or it can remain unnoticed for decades<sup>5</sup>. Early presentation is due to superinfection with subsequent sepsis, abscess and fistula formation while late presentation is due to formation of a soft tissue mass<sup>3,6</sup>. In intra-abdominal location it can also cause intestinal obstruction<sup>7</sup>. RSFB are rarely found incidentally<sup>4,5</sup>. A number of strategies are applied for prevention of these events in complex, lengthy abdominal or pelvic surgical procedures<sup>2</sup>.

We herein describe a case of RSFB incidentally found during cholecystectomy after 12 years of Lower Segment Caesarean Section (LSCS) procedure.

### Case Presentation

A 40-year-old, known diabetic, female patient presented in surgery clinic of Abbasi Shaheed Hospital with complain of intermittent pain diffusely involving upper abdomen for 2 years. Pain was

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Fig 1. Photograph of extracted mass (post-operative)

associated with nausea, vomiting and intermittent constipation. Pain aggravated on fatty diet intake and exertion. Past surgical history included two surgeries, one was LSCS about 12 years back and second was negative exploratory laparotomy 3 months after LSCS for unknown reason.

On examination, the patient was an obese (BMI 30) middle age female who was well oriented with time, place and person. Abdominal examination; on inspection, Pfannenstiel scar and lower midline scar were noted. On palpation, abdomen was overall soft. Upper abdomen was mildly tender and central abdomen was distended, no mass or viscera was palpable and gut sounds were audible.

Ultrasonography revealed distended gallbladder showing multiple hyperechoic foci with posterior acoustic shadowing suggestive of calculi measuring 1.4, 1.2 and 0.7 cm. Rest of the abdominal and pelvic organs were normal. Based on clinical and radiological findings of chronic calculus cholecystitis, patient was planned for open cholecystectomy.

Per-operatively, abdomen was opened via sub-costal Kocker's incision and cholecystectomy was

done. During per-operative examination of rest of the abdominal organs, a hard mass was felt in center of abdomen between the loops of small bowel. Decision of laparotomy was made and informed consent was obtained from the patient's family. Whole of the gut was explored and the mass was present in between the loops of intestine making interloop fistulous communication. The mass was removed by separating it from the gut and the gut was repaired by Vicryl 2/0 extra mucosal single layer in interrupted fashion. Drain was placed and abdomen closed in layers.

After careful examination of mass, it was found that the mass was a surgical sponge as shown in Figure 1. In our opinion, it was retained during patient's LSCS surgery 12 years back and it was the most probable indication for her subsequent laparotomy. But unfortunately, it was not recovered during laparotomy. It was surprising that the mass remained asymptomatic for such a long time and it was neither recovered during her subsequent exploratory laparotomy nor it was picked on ultrasound examination performed prior to cholecystectomy.

Luckily, the patient didn't develop any complication during this long period.

Patient had an uneventful post-operative clinical course. Drain and stitches were removed on 5<sup>th</sup> and 10<sup>th</sup> post-operative days respectively. Patient was fine and had no complaints or complication on her subsequent follow up visits after surgery.

## **Discussion**

RSFB are preventable surgical errors which only come to notice as case reports or malpractice claims which only represent the tip of the iceberg<sup>1,2</sup>. They not only cause distress to patients in terms of morbidity due to additional surgery done for their retrieval but they also cause loss of financial resources of patient and government. They are also a common cause law suits filed against medical staff for their negligence. These events not only defame the medical team especially surgeon but also bring disgrace to the institution. Although majority of RSFB are encountered in abdominal and pelvic surgeries, they can occur in every surgical procedure including vascular, orthopaedic and spinal surgeries<sup>6,8,11</sup>. The RSFB in our patient was also left after LSCS procedure. Surgical sponges account for two thirds of RSFB. Since they are small in size, multiple in number and when soaked in blood, resemble body parts and are therefore easily missed during their retrieval at the end of surgery<sup>4,12</sup>. RSFB present with fever, vomiting, pain, abscess formation, fistula formation, sepsis and intestinal obstruction<sup>4,7,9</sup>. Asymptomatic cases are detected on radiological examination and appear as a mass resembling abscess or a soft tissue tumor<sup>5,6,13</sup>. Surgical sponges are radiopaque and easily detectable on plain X-ray when a radio-opaque marker is seen<sup>2,12</sup>. Presentation of RSFB can range from day of surgery to 28 years later, with a median date of detection at 21<sup>st</sup> day after surgery<sup>4</sup>. The RSFB in our patient was also recovered after 12 years. There are multiple unusual and interesting factors related to RSFB in our patient. First of all, it did not cause any infection at all for such a long time. Secondly, although mild pain was appreciated

initially after first surgery but otherwise there was no significant complaint. Despite being present between the bowel loops it did not cause bowel obstruction rather it led to fistula formation. In our opinion, lack of pain and obstruction was due to maintenance of fecal flow through fistulous tract and due to presence of adequate space around RSFB so that it did not exert significant pressure on bowel loops. Another surprising aspect of this case is failure of its detection on ultrasonography and more on exploratory laparotomy done shortly after initial surgery. We think that ultrasound is not an ideal modality for detection of deep seated RSFB. Furthermore, during exploratory laparotomy, if RSFB is not being easily found it should be searched in deep seated location between the bowel loops. The identification of the RSFB warrants its immediate surgical removal to alleviate symptoms and avoid possible complications<sup>7</sup>. A large study on outcomes of RSFB reported mortality in 4.5% cases along with physical injury of permanent and temporary nature in 16.3% and 78.1% case respectively. Psychological sequel was also observed in 1.1% cases<sup>14,15</sup>. There are various risk factors including abdominal and pelvic surgeries, complex and lengthy surgeries, open versus laparoscopic surgeries, emergency surgeries, unexpected change in surgical procedure, involvement of different surgical teams, obesity, etc.<sup>4,5</sup>. A number of preventive measures can be taken to avoid these events. The most prevalent one is the careful counting of surgical instruments and sponges before and after the procedure<sup>7,8,10</sup>. But this method is not reliable since there was "correct" count of surgical instruments and sponges in 70-80% reported cases of RSFB<sup>16</sup>. In order to obtain reliability, the counting should be done separately by more than one member of surgical team. Avoiding the use of small size sponges and a careful search of the operating field by the surgeon just before the closure may also reduce the chances of RSFB<sup>4,6</sup>. Some authors have proposed post-operative, on-table radiography for detection of RSFB especially in procedures with risk factors<sup>2</sup>. In a developing country such as ours, the cost issues of additional radiological procedure

need to be weighed against the cost issues and complication of additional surgical procedure. Use of radio-frequency tagged surgical items and their post-operative detection by an electronic detector can provide a better solution of this problem<sup>10</sup>.

## Conclusion

RSFB is a common preventable surgical error with diverse clinical presentations, complications and consequences. Awareness of the serious outcomes, implementation of preventive measures and proper recording of surgical instruments and sponges before and after procedure can help in reducing their incidence.

## Conflict of Interests

Authors have no conflict of interests and received no grant/funding from any organization.

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