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A Case Report of Retained Foreign Body in the Terminal Ileum Following Cholecystectomy

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ABSTRACT

Background: Retained foreign body, is a rare but serious postoperative complication that often arises after emergency or prolonged surgeries. Its clinical presentation varies widely, from asymptomatic to life-threatening complications such as obstruction, fistula, or infection. Despite improvements in surgical protocols, retained foreign body remains a significant medicolegal and diagnostic challenge, particularly in resource-limited settings.

Case Presentation: We report a case of a 28-year-old female patient who presented with chronic abdominal pain, vomiting, weight loss, and failure to thrive, six weeks after undergoing an open cholecystectomy. Radiological investigations suggested small bowel obstruction, and exploratory laparotomy revealed a retained surgical sponge (gossypiboma) lodged in the terminal ileum near the ileocecal valve. The sponge had caused a localized inflammatory reaction and partial intestinal obstruction. The foreign body was surgically removed, and the patient recovered uneventfully.

Discussion: Retained foreign body can mimic a wide range of gastrointestinal disorders and often leads to delayed diagnosis due to nonspecific symptoms. Transmural migration of sponges into the bowel lumen is a rare but documented phenomenon, typically occurring in surgeries like cholecystectomy, cesarean section, and hysterectomy. This case aligns with other documented reports of gossypiboma-induced small bowel obstruction, emphasizing the importance of high clinical suspicion in postoperative patients with unexplained symptoms.

Conclusion: This case underscores the critical need for rigorous surgical count protocols and the use of radiopaque materials to prevent retained foreign bodies. Early recognition and surgical intervention remain key to reducing associated morbidity and legal implications.

Keywords: Abdominal pain, Cholecystectomy, Enterotomy, Gossypiboma, Retained foreign body.

INTRODUCTION

The presence of a foreign object left behind after abdominal or pelvic surgery is an uncommon yet potentially serious postoperative complication (Szymocha et al., 2019). Among the various types of foreign materials unintentionally left behind after abdominal surgery, surgical sponges are the most frequently encountered, The term ' gossypiboma' — a combination of the Latin word *gossypium* (meaning cotton) and a Swahili word implying 'hidden place'—was first used to describe such a case in 1897 by Wilson (Gupta et al., 2021). The condition is also known as a textiloma, a term derived from the Latin word *textilis* meaning 'woven,' and the Greek suffix *-oma*, which denotes a swelling, tumor, or pathological growth (de Sousa et al., 2020). The occurrence of retained surgical items is estimated to range between 0.001% and 0.01% globally (Kim et al., 2007). The majority of retained items—about 90%—are soft materials like cotton sponges and surgical cloths (Szymocha et al., 2019). Regarding patient factors and surgeons experience the most commonly associated risk factors for gossypiboma or retained surgical materials include emergency operations, elevated body mass index, and the involvement of several surgical teams (Gonzalez & Martinez, 2021; Qureshi et al., 2021). Clinically, these cases tend to occur more often than what is reflected in the literature (Bozkırlı et al., 2020). Detection may occur within days postoperatively or, in asymptomatic cases, may go unnoticed for several years (Ali et al., 2022).

The clinical presentation of retained foreign bodies is often vague and varies widely, with symptoms appearing either shortly after surgery or much later, depending on the location, degree of inflammation, affected organs, and any resulting complications (Bozkırlı et al., 2020; Gonzalez & Martinez, 2021; Yagmur et al., 2015). Intestinal obstruction is the most frequently observed manifestation (Ali et al., 2022). Due to the nonspecific or absent symptoms, diagnosing such cases can be challenging (Akbulut et al., 2011). A comprehensive approach involving surgical history, physical assessment, laboratory tests, and imaging studies is essential for accurate identification (Ali et al., 2022). On CT scans, these lesions may resemble soft tissue masses, abscesses, or echinococcal infections (Bozkırlı et al., 2020). Definitive management involves surgical extraction—via endoscopic, laparoscopic, or open approaches—to avoid serious complications (de Sousa et al., 2020). Mortality related to retained surgical foreign bodies is reported to range from 11% to 35%, depending on the time of diagnosis, presence of complications such as sepsis or perforation, and overall patient health (Gawande et al., 2003). Open cholecystectomy is among the procedures most frequently associated with this complication, Transmural migration of an intra-abdominal gossypiboma represents an uncommon but potentially severe postoperative complication. The organs most frequently involved in such migration include the stomach, ileum, small intestine, colon, urinary bladder, and vagina. Rarely, other anatomical sites such as the pericardium, nasal cavity, urethra, and diaphragm have also been reported(Danial et al., 2023). In exceptional cases, a gossypiboma can move into the gastrointestinal tract without creating a visible perforation, eventually passing through the intestines and being expelled naturally. However, in most situations, surgical intervention—either laparoscopic or open—is necessary for its retrieval (Bashir et al., 2023). In this report, we present a rare case of gossypiboma migrating into the gastrointestinal lumen, and the case has been documented following the “Surgical Case Report “ (SCARE) guidelines (Kerwan et al., 2025).

A CASE REPORT

A 35-year-old female patient presented to the outpatient department of the general surgery ward at Nangarhar Regional Hospital on 15th of June, 2025 with complaints of progressively worsening abdominal discomfort lasting over a period of three months. Her symptoms included persistent abdominal pain, intermittent episodes of nausea and vomiting, and an unintended weight loss of approximately 4 kilograms during this period. Notably, her past surgical history included an open cholecystectomy performed three months prior to this presentation, after which she had reportedly experienced a normal postoperative recovery without any immediate complications.

On physical examination, the patient was alert and oriented, with vital signs within normal limits. However, examination of the abdomen revealed visible distention along with generalized tenderness, although no palpable masses were appreciated. There were no signs of peritonitis or guarding. Initial laboratory investigations showed a mild elevation in the white blood cell count (14,000/mm³), indicating a possible underlying inflammatory process. Hemoglobin levels were slightly decreased at 11 g/dL, suggestive of mild anemia. Renal function tests, including serum creatinine and blood urea nitrogen (BUN), were within normal physiological ranges. To exclude acute pancreatitis as a differential diagnosis, both serum and urinary amylase levels were assessed and found to be within normal limits. Radiological imaging was then conducted, including plain abdominal X-rays and an abdominal ultrasound. The imaging findings were consistent with features of partial small intestinal obstruction, but did not reveal any clear lead point or perforation. Due to the clinical suspicion of an intra-abdominal pathology and the inconclusive nature of non-invasive diagnostics, the surgical team opted to perform an exploratory laparotomy (Figure 1).

Figure 1: image of laparotomy operation by surgical team

During the operation, a retained surgical sponge (gossypiboma) was detected lodged within the lumen of the Terminal ileum. The foreign object had led to partial mechanical obstruction of the small intestine, though fortunately, no ischemia or necrosis of the bowel wall was observed. An enterotomy was performed at the site of the obstruction, and the sponge was carefully extracted without complications (Figure 2). The surrounding bowel was assessed and found to be viable, with no requirement for bowel resection. The abdominal cavity was irrigated, and the enterotomy site was repaired in layers. The patient tolerated the procedure well and had an uneventful postoperative course. Postoperative recovery was smooth, and the patient resumed oral intake on the second postoperative day. She was discharged in stable condition on the third day following the procedure, with appropriate follow-up instructions and surgical counseling regarding the nature of her complication. This case underscores the importance of strict surgical count protocols and highlights the potential for delayed and atypical presentations of retained surgical items, even after seemingly uncomplicated procedures.

Figure 2: intra-operative image of removed sponge from terminal ileum

DISCUSSION

This case of a retained surgical sponge (gossypiboma) is not the first to occur following an open cholecystectomy; similar cases have been documented in the medical literature, with the earliest reported by Wilson in the late 19th century (Margonis et al., 2016). Identifying a retained surgical sponge, or gossypiboma, can carry significant medicolegal consequences, often straining the relationship between patient and surgeon. Surgeons involved in such incidents may face severe outcomes, including public scrutiny, psychological stress, professional embarrassment, reputational harm, and potential litigation (Gattani et al., 2025). Although uncommon, the transmural movement of retained gauze into the intestinal lumen has been reported and may result in complications such as bowel obstruction or the development of fistulous tracts involving adjacent organs. This process is believed to stem from localized necrosis of the intestinal wall, caused by sustained pressure exerted by the encapsulated gauze (Patial et al., 2018). The encapsulation itself is thought to result from an inflammatory reaction of the peritoneum in response to the foreign body's presence (Adelyar et al., 2025).

The ileum, a segment of the small intestine, is the most commonly involved site in cases of gastrointestinal gossypiboma, although occasional reports have described migration into the colon and stomach (Obeidat et al., 2020). This rare complication of transmural migration is most frequently associated with cholecystectomy, followed in frequency by cesarean deliveries and hysterectomies (Lv et al., 2014). In the present case, a surgical sponge was found retained and lodged in the terminal ileum near the ileocecal valve, leading to clinical manifestations such as abdominal pain, vomiting, weight loss, and other nonspecific symptoms that prompted the patient to seek medical attention. A similar case was reported by Mohammad Asef Adelyar et. al from the Department of Abdominal Surgery at Aliabad Teaching Hospital, affiliated with Kabul University of Medical Sciences, Kabul, Afghanistan. In that report, an 18-year-old female presented with abdominal pain, distension, and vomiting six weeks after undergoing cholecystectomy, The retained sponge had transmigrated into the ileum, resulting

in mechanical obstruction and patchy gangrene of the gut wall (Adelyar et al., 2025). A case of small bowel obstruction caused by gossypiboma was also documented by Rasim Gencosmanoglu and colleagues at the Department of Gastrointestinal Surgery, Marmara University Institute of Gastroenterology in Istanbul, Turkey. In that report, a 74-year-old patient with a prior history of cholecystectomy and umbilical hernia repair presented three years postoperatively with signs of intestinal obstruction (R. Gencosmanoglu & R. Inceoglu, 2003). Contrast-enhanced abdominal CT imaging revealed a well-circumscribed, rounded soft-tissue lesion in the mid-abdomen, characterized by a thick, enhancing capsule and internal high-density material interspersed with air bubbles. Surgical exploration confirmed the diagnosis, and the mass was successfully excised by the operating team (Rasim Gencosmanoglu & Resit Inceoglu, 2003). Evangelos Margonis et al. reported a case involving a 36-year-old woman who presented with chronic abdominal pain, nausea, vomiting, and a 6-kg weight loss over several months; She had undergone a cesarean section six months earlier. Despite unremarkable abdominal examination and normal sonographic findings, a plain abdominal radiograph showed a high-density mass in the left iliac fossa suggestive of a retained foreign body, Exploratory laparotomy revealed small bowel obstruction, an ileosigmoid fistula, and a 20 × 25 cm retained surgical sponge within the ileal lumen, Surgical management included resection of the affected bowel and sigmoid segment with loop sigmoidostomy, after which the patient recovered uneventfully (Margonis et al., 2016). Diagnosis of retained foreign bodies remains a clinical challenge due to nonspecific symptoms and the potential for long latency periods between surgery and symptom onset (Gattani et al., 2025). In some cases, gossypibomas remain asymptomatic for years and are discovered incidentally on imaging or during surgery for unrelated conditions (Rajput et al., 2003). The most common symptoms, when present, include abdominal pain, vomiting, fever, and a palpable mass (Gupta et al., 2021). In the case presented here, the constellation of symptoms and radiological findings raised suspicion for partial intestinal obstruction, ultimately necessitating exploratory laparotomy. The standard treatment for gossypiboma is surgical removal, which may be performed through open laparotomy or, in selected cases, laparoscopic or endoscopic approaches depending on the location and condition of the patient (Yildirim et al., 2006). In our case, exploratory laparotomy was indicated due to the unclear diagnosis and presence of partial intestinal obstruction. Upon locating the sponge in the distal ileum, an enterotomy was performed, and the foreign body was extracted without bowel resection. The absence of bowel necrosis was fortunate and contributed to the patient's favorable postoperative outcome. Prompt diagnosis and intervention are crucial to reducing morbidity and mortality. In this case, the patient recovered uneventfully and was discharged within three days postoperatively. The World Health Organization's Surgical Safety Checklist, introduced in 2008, includes sponge and instrument count as one of its core components. Studies have demonstrated that use of the checklist significantly reduces surgical morbidity and mortality (Haynes et al., 2009). Yet, its consistent application remains a challenge, particularly in low-resource settings where staffing shortages, lack of training, or equipment limitations may hinder compliance. In Afghanistan and similar contexts, the implementation of basic surgical safety measures, including sponge counts before wound closure and use of radiopaque sponges, can play a crucial role in preventing such complications.

This case emphasizes the critical need for improved surgical protocols, education, and accountability. Regular training of surgical teams, effective communication among operating room staff, and adoption of technological solutions can help mitigate the risk. Additionally, raising awareness among healthcare professionals about the possibility of gossypiboma in patients presenting with unexplained postoperative symptoms is vital for timely diagnosis.

CONCLUSION

Retained foreign body after surgical procedure is a rare but serious postoperative complication that can lead to significant morbidity and medicolegal consequences. In our case, a retained surgical sponge migrated to the terminal ileum, causing symptoms of bowel obstruction weeks after cholecystectomy. Surgical removal resolved the condition. This case highlights the importance of thorough sponge counts, use of radiopaque materials, and high clinical suspicion in patients presenting with unexplained abdominal symptoms

after surgery. Preventive measures and strict adherence to operative protocols are essential to avoid such preventable errors and ensure patient safety in all surgical settings.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this case report. No financial, personal, or professional relationships influenced the content or outcome of this study. All authors have reviewed and approved the final version of the manuscript for submission and publication.

ETHICAL APPROVAL

The ethical approval for the case study is taken from research committee of Nangarhar University, Medical Faculty and the patient consent for reporting the case is also taken at the point of discharge from hospital.

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AUTHORS CONTRIBUTION

All authors contributed during completing this case report study. Assadullah Husainzai has taken part in conceptualization and drafting the initial findings of case report, Sayed Zekria Hashimi has written and completed the theme and main body of the case report article and Niamatullah Darman and Sayed Ahmad Shah Akbar have revised and edited the article, final decision and selection of journal was done by Muhammad Ishaq Shinwary.

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