International Journal of Health Science & Biomedicine (IJHSB)

e-ISSN: 3139-3691

CASE REPORT OPEN ACCESS

Intravesical Migration of a Retained Abdominal Gauze: Case Report Diagnostic Dilemma and Bridging gaps in Surgical Safety

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Citation: Mahmoud M, Osama Z, Mirghani A, Mahmoud M (2026). Intravesical Migration of a Retained Abdominal Gauze: Case Report Diagnostic Dilemma and Bridging gaps in Surgical Safety. Int J Health Sci Biomed. 3(5): 1-3. DOI: 10.5281/zenodo.22131882

Received Date: 2026-08-18, **Accepted Date:** 2026-09-07, **Published Date:** 2026-09-30

Keywords: Intravesical Abdominal gauze; Gauze migration; Cesarean section complication

Abstract

Intravesical abdominal gauze, a retained gauze that has migrated into the urinary bladder, is an exceptionally rare but serious complication. It typically arises from chronic inflammation and erosion following abdominal or pelvic surgery. We present a 32-year lady with a one-year history of lower urinary tract symptoms. She had past history of an elective cesarean. Endoscopic removal failed, necessitating open cystotomy, which confirmed the gauze, it was successfully removed, and the patient recovered uneventfully. This case highlights the diagnostic challenges of intravesical migration of surgical gauze and preventive measures, including strict adherence to surgical safety protocols.

Introduction

Intravesical foreign bodies are rare but clinically significant urological condition arising from various causes, including iatrogenic, self-insertion, trauma, or migration from adjacent organs [1]. Retained surgical materials, known as gossypiboma which is typically consists of cotton-based surgical material left unintentionally within the abdominal cavity [2].
Migration into urinary bladder is exceptionally rare. This can occur gradually through chronic inflammation, pressure necrosis, and erosion into adjacent organs [3],[8].

Patients with intravesical gossypiboma often present with nonspecific lower urinary tract symptoms, including dysuria, hematuria, recurrent urinary tract infections, or bladder outlet obstruction. These clinical features may lead to misdiagnosis as bladder stones or tumors, complicating timely diagnosis and management [4]. delayed intestinal obstruction due to retained gauze has been reported, emphasizing gaps in surgical safety and perioperative protocols [2],[7].

Although preventable, gossypiboma continues to occur in developing countries, reflecting challenges in surgical systems, documentation, and adherence to safety standards. Reporting rare presentations such as intravesical migration is essential to improve clinical awareness, facilitate early diagnosis, and reinforce preventive measures.

Case Presentation

A lady of 32 years house wife from Hasaheisa middle of Sudan presented with burning micturition, urge incontinence over one year, she reported dyspareunia, suprapubic pain and hesitancy but there were no fever or hematuria. She is para two last one outcome of elective cesarian section 30 months ago, no history of wound infection or delayed healing. During this time has been seen by many medical profession's medical officers, surgeons, obstetrician who were suggest investigations and treated accordingly but without improvement. On examination she is vitally well with transverse suprapubic surgical scar, negative cough impulse, mild suprapubic tenderness. Laboratory investigations revealed pus cells, red blood 3 to 7cells in urine, normal renal function test, bladder mass measuring 7.5*12 cm seen in abdominal ultrasound. Patient diagnosed as bladder mass planned for cystoscopy +/- proceed. Under spinal anesthesia lithotomy position cystoscope size 16 Fr passed smoothly and surprisingly a gauze stuck to anterior wall of the urinary bladder was found, no mass seen [Figure 1]. Efforts were done to remove the gauze by cystoscope but failed so decision of conversion to open removal was made. Through transverse suprapubic incision abdomen accessed there was adhesions between urinary bladder and small bowel which was released however the bladder opened vertically the abdominal gauze identified and removed [Figure 2].

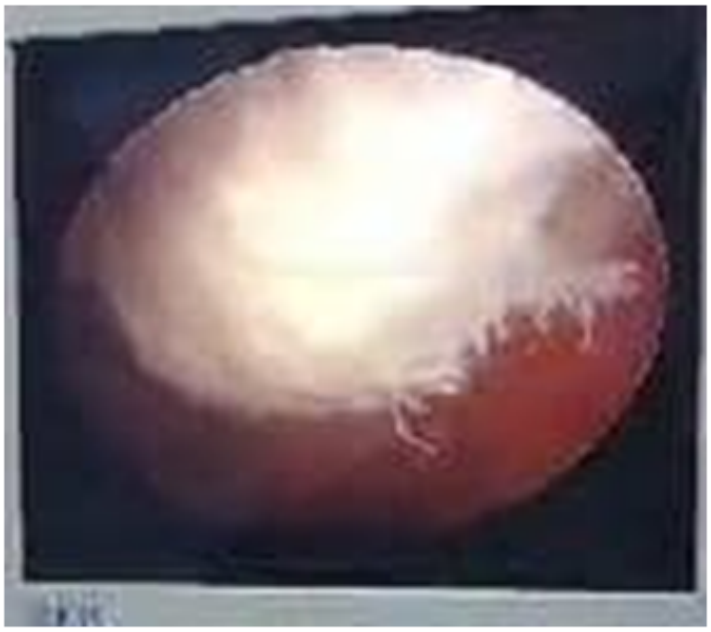

Figure 1: Cystoscopy view showing intravesical abdominal gauze

Figure 2: Removed Abdominal Gauze

Discussion

Intravesical gossypiboma represents an exceptionally rare but serious complication of retained surgical material. The migration of a surgical gauze into the bladder, as seen in this patient, is an uncommon phenomenon that typically occurs through a gradual process of chronic inflammation, pressure necrosis, and eventual erosion from the peritoneal cavity into the viscera [2]. The prolonged interval between the initial surgery and presentation, a period during which the patient remained largely asymptomatic aside from chronic lower urinary tract symptoms, is consistent with other reports from Sudan where retained surgical items have remained undetected for years [1,3].This study report uncommon presentation during elective cesarian section which is least likely to be associated with this complication in contrast Bashir et al report retained abdominal gauze with previous history of hysterectomy which is major pelvic surgery.

The clinical presentation in this case was nonspecific often mimic more common urological conditions such as recurrent urinary tract infections, bladder stones, or bladder tumors [3]. This diagnostic ambiguity led to the patient being evaluated by multiple clinicians—including medical officers, surgeons, and obstetricians—without symptom improvement, underscoring the risk of misdiagnosis. In resource-limited settings where access to advanced imaging such as computed tomography is limited, reliance on ultrasound may not provide definitive identification of a gossypiboma. In this case, ultrasound revealed a large bladder mass, which was initially presumed to be a neoplasm. This pattern of misdiagnosis is similar to a recent Sudanese report where a retained sponge was initially mistaken for an ovarian cyst [1].

Definitive diagnosis was made intraoperatively during cystoscopy, which unexpectedly revealed a gauze adherent to the anterior bladder wall rather than a solid mass. Endoscopic removal was unsuccessful due to the gauze's size and adherence, necessitating open cystotomy for extraction. This approach is consistent with the standard of care for large or embedded intravesical foreign bodies, where open surgery ensures complete removal and allows for the management of any associated adhesions or fistulous tracts [1].

This case reinforces several critical lessons. First, gossypiboma should remain a differential diagnosis in any patient with a history of prior surgery who presents with unexplained lower urinary tract symptoms or a bladder mass, even years after the initial procedure [3]. Second, it highlights the importance of adhering to perioperative safety protocols, such as standardized sponge counts and surgical checklists, which are essential preventive measures. Finally, reporting rare presentations like intravesical migration is crucial to improving clinical awareness, facilitating earlier diagnosis, and ultimately preventing the significant morbidity associated with this condition.

Ethical Approval

This case report was conducted in accordance with institutional ethical standards. Informed consent for clinical evaluation and publication was obtained from the patient.

Author Contributions

Mohamed Mahmoud conceptualized and authored the case report collected clinical data, Abbass Mirghani performed the surgery. Zainab Osama conducted the literature review, Mogahid Mahmoud drafted the manuscript.

Conflict of Interest

The authors declare no conflicts of interest related to this case report.

Funding

This case report received no specific grant from any funding agency.

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