

AN UNUSUAL CASE OF TRANSMURAL MIGRATION OF SURGICAL MOP: A DIAGNOSTIC CHALLENGE

Radio-Diagnosis

Dr. Aman Gangwani

PG JR-3, Department Of Radio-diagnosis, JNUIMSRC, Jaipur.

Dr. Vikas Kumar Joshi

Assistant Professor, Department Of Radio-diagnosis, JNUIMSRC, Jaipur.

Dr. Rajat Vaish

PG JR-3, Department Of General Surgery, JNUIMSRC, Jaipur.

ABSTRACT

Most commonly encountered in the abdomen in patients with a previous history of surgery, gossypiboma is an uncommon surgical complication. These sponges / surgical mops are unintentionally left behind in the surgical bed. The resulting presentation and complications are highly variable, making the diagnosis a challenge. Though rare, gossypibomas should be kept as a differential diagnosis in patients presenting with localised pain and a lump in the abdomen, along with a previous surgical history. We report a case of a 30-year-old female who presented with pain and a lump in the abdomen (right lumbar region), which was progressive in nature; however, the patient did not have any other complaints/symptoms. She had a history of LSCS and tubectomy 1.5 years ago, which was the only clue that led to the diagnosis.

KEYWORDS

Case Report, Gossypiboma, Transmural Migration, Abdominal Lump

INTRODUCTION

Gossypiboma, aka cottonoid/textiloma, are terms used to define a foreign object, such as a surgical mop, sponge or laparotomy pad, which is unintentionally left behind in the body cavity after a surgical procedure. The term is derived from the Latin and Swahili words 'Gossypium' (cotton) and 'Boma' (place of concealment), respectively, translating to retained sponge in the surgical bed. The true incidence of this entity is unknown, likely due to its medico-legal aspects; however, it is an uncommon surgical complication.

A gossypiboma may be detected within a few days following surgery or can even remain undetected for years. The presentation and complications of this entity are highly variable, which leads to diagnostic dilemmas and thus delays in diagnosis, resulting in significant patient morbidity and mortality. Gossypiboma should be considered a differential diagnosis in patients with a previous history of surgery presenting with pain and an abdominal lump/mass.

CASE REPORT

A 30-year-old female presented in the surgery OPD with a history of pain and a palpable lump in the abdomen (in the right lumbar region). No signs of bowel obstruction / other significant symptoms were present at the time of presentation. Family history was not significant. Patient gave a history of LSCS with tubectomy 1.5 years ago, after which she was discharged and sent home. No further investigations were carried out.

Patient developed the symptoms in the postoperative phase and avoided consulting for the same till date.

The patient was referred for a whole abdomen ultrasound to the Department of Radiodiagnosis.



Figure 1. The Whole Abdomen Ultrasound Scan Showed An Ill-defined Round Lesion/mass In The Right Lumbar Region With An Echogenic Center And Posterior Acoustic Shadowing. No Definitive Diagnosis Was Made On The Ultrasound Scan.

The patient was then referred for CECT abdomen for further characterisation of the lesion.

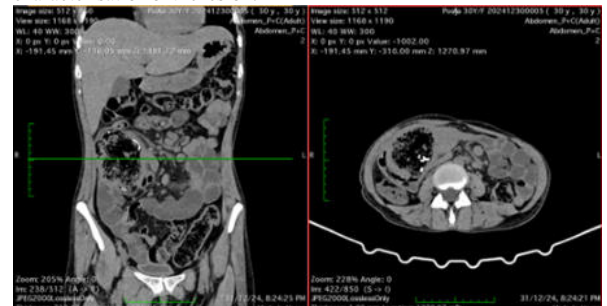


Figure 2. On A Plain CT Scan, Diffuse Thickening Of The Ileal Loops Was Noted, Along With An Ill-defined Mass With A Spongiform Pattern And Gas Bubbles. A Hyperdense String-like Structure Is Also Noted Within The Mass.

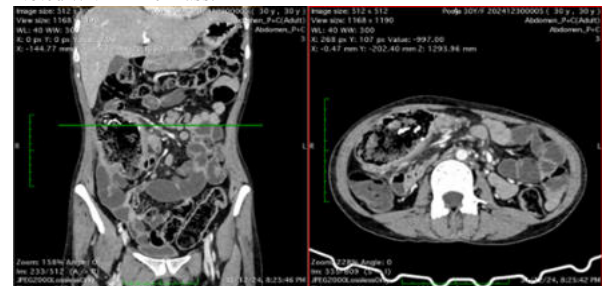


Figure 3. On POST-IV Contrast CT Images, Peripheral Enhancement Is Noted, Suggestive Of Inflammatory Changes In The Ileal Loop.

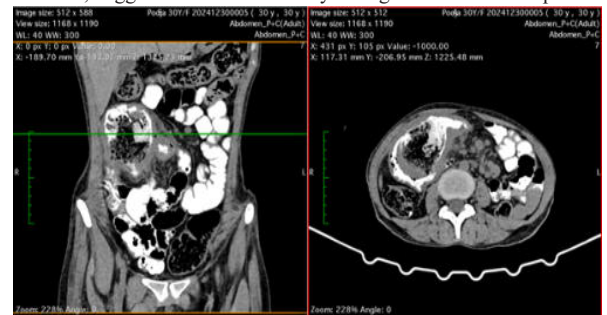


Figure 4. On Oral Contrast Administration, The Contrast Is Seen Surrounding And Passing Through The Internal Contents. No Signs Of Bowel Obstruction Are Noted.

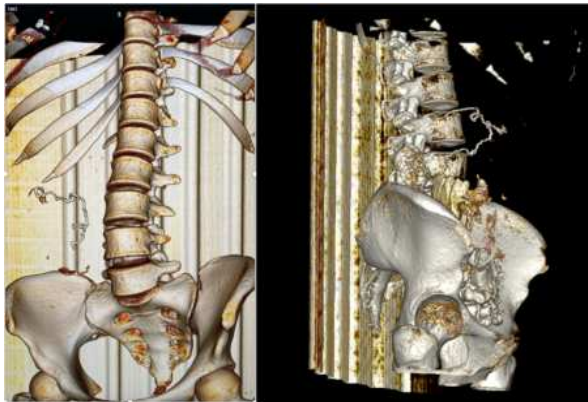


Figure 5. On 3D Reconstruction, The Hyperdense String-like Structure Is Confirmed (Likely The Radio-opaque Marker).

Therapeutic Intervention

The patient was taken for elective surgery- Exploratory Laparotomy for extraction of Gossypiboma with Jejunio-Jejunal and Ileio-Ileal resection and anastomosis.

The lump was present in the right lumbar region, adhered to the anterior abdominal wall (the content of the lump - densely adhered jejunal and ileal loops with sponge formation like a cocoon). Adhesiolysis was done, after which the jejunal and ileal loops were excised. Reconstruction of the loops was done by Jejunio-Jejunal and Ileio-Ileal end-to-end anastomosis in a single layer.



Figure 6. Exposed Thickened Segment Of Jejunal and Ileal loops With Inflammatory Changes On OT Table.



Figure 7. Resected Densely Adhered Jejunal And Ileal Loops.



Figure 8. Surgical Sponge Within The Resected Loops.

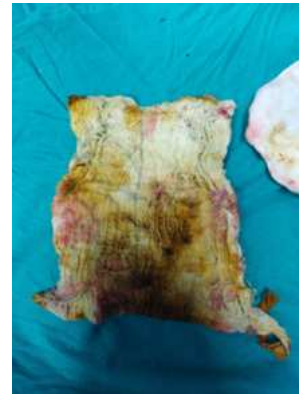


Figure 9. Retrieved Surgical mop.

DISCUSSION

Gossypiboma, also known as a textiloma/cottonoid, is a foreign object, such as a surgical mop, sponge, or laparotomy pad, that is unintentionally left behind in the body cavity after a surgical procedure. The true incidence of this entity is unknown, likely due to its medico-legal implications; however, it is an uncommon post-surgical complication.

The common sites for gossypiboma include the abdominal cavity, the thoracic cavity, and a few cases of intracranial gossypiboma have also been reported.

The entity has varied presentations, ranging from no symptoms to severe manifestations like bowel obstruction, gastrointestinal bleed, fistula formation, severe vomiting, weight loss, malabsorption syndrome, anorexia and a palpable mass. The longer the condition goes undetected, the worse the outcome.

It may give rise to an Exudative reaction leading to abscess formation, which usually occurs in the postoperative phase, or an aseptic fibrinous reaction resulting in granuloma formation (foreign body). The exudative reaction, if complicated by a superadded bacterial infection, may even lead to fistula formation. Although rare, this foreign body can migrate transmurally into the intestinal lumen without any apparent opening (as in our case) and may or may not cause obstruction. There are cases where even spontaneous expulsion of the surgical mop through the anus has been reported.

Radiological investigations play a crucial role in the detection of this entity. Surgical sponges are labelled with a radio-opaque string, which can be easily detected even on plain X-rays. These radio-opaque strings were first introduced by Cahn in 1929, but came to the Asian countries decades later, during the 1980s. The important point to be remembered here is, this marker may get distorted due to twisting or may even disintegrate over time, which will make the diagnosis difficult.

On ultrasound, gossypibomas present as a lump/mass depending on their location, with an echogenic centre/area and intense posterior acoustic shadowing. It may also be seen as a cystic mass with areas of calcification and or fistulous tract. Posterior acoustic shadowing is almost always present due to beam attenuation by the foreign body, presence of gas and sometimes even calcification.

On Computed Tomography, the classical feature of gossypiboma is a spongiform, whorled appearance with gas bubbles. If present, the capsule can show enhancement on contrast administration, and the presence of a radio-opaque string/marker may also be noted. Other features, like calcification of the capsule / reticulate rind sign, may also be seen.

Once detected, surgical removal through laparoscopy/available surgical modes is the mainstay of treatment.

CONCLUSION

Though a rare complication, gossypiboma should be considered a differential diagnosis in patients presenting with vague abdominal pain and/ or abdominal mass with a previous surgical history. Understanding the variable radiological manifestations and

presentations of gossypibomas is essential for early diagnosis and prevention of complications like obstruction, perforation, abscess formation, adhesion with surrounding structures and serious medico-legal implications. These can be prevented by setting up a protocol of using radiological markers on the surgical mops/sponges and a mandatory pre- and post-operative count of sponges.

REFERENCES

1. Manzella A, Filho PB, Albuquerque E, Farias F, Kaercher J. Imaging of gossypibomas: pictorial review. *American journal of roentgenology*. 2009 Dec;193(6_supplement):S94-101.
2. Rajput A, Loud PA, Gibbs JF, Kraybill WG. Diagnostic challenges in patients with tumors: case 1. Gossypiboma (foreign body) manifesting 30 years after laparotomy. *Journal of clinical oncology*. 2003 Oct 1;21(19):3700-1.
3. Silverstone L, Walizai T, Ranchod A, et al. Gossypiboma. Reference article, Radiopaedia.org (Accessed on 08 Jan 2025) <https://doi.org/10.53347/rld-8118>
4. Srivastava KN, Agarwal A. Gossypiboma posing as a diagnostic dilemma: a case report and review of the literature. *Case Reports in Surgery*. 2014;2014(1):713428.