

## Case Report

# Intra-Abdominal Surgical Gauze Pseudotumor (Gossypiboma) Mimicking A Dermoid Cyst.

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### Abstract

Retained surgical sponge or gossypiboma in the abdominal cavity following surgical operation is an avoidable iatrogenic complication, which is underreported in the literature because of medicolegal implications. Such complication can lead to serious morbidity and even mortality because it is not anticipated and is frequently misdiagnosed. In most instances, the retained foreign body induces a foreign body reaction which causes infection or abscess formation in the early post operative period; however pseudotumor formation rarely occurs in long term retention. Here, we describe a case of surgical gauze induced pseudotumor following an emergency hysterectomy conducted in a peripheral hospital one year ago. Clinical picture and imaging findings were suggestive of dermoid cyst in lower abdomen. After laparotomy, gross and histological examination revealed an inflammatory pseudotumor due to gauze piece. We suggest that when an intraabdominal mass presents with a previous operative history, foreign body pseudotumor should be considered in the differential diagnosis.

**Key Words:** gossypiboma, foreign body, surgical gauze, pseudotumor

## Introduction

### 5 Case Report

A 30-year-old woman presented in outpatient department with pain and mass in her right lower abdomen. She had undergone an emergency abdominal hysterectomy one year back in a peripheral hospital due to postpartum hemorrhage and remained asymptomatic for 8 months. For the last four months she was feeling pain, discomfort and lump in the lower abdomen. The mass was gradually increasing in size but not associated with fever or weight loss. On physical examination patient was afebrile and appeared to be in good health, coherent with pulse 80/min, blood pressure 110/80 mm of Hg and respiratory rate 16/min. Abdominal examination revealed a vertical midline well healed scar and a lump in suprapubic region. The mass was slightly tender, firm in consistency, freely mobile and had well defined margins. On vaginal examination, uterus not found (consistent with previous hysterectomy) and vaginal vault and adnexal regions were normal. Routine laboratory analysis on admis-

sion revealed total leukocyte count of  $5.0 \times 10^3/\text{mm}^3$ , erythrocyte sedimentation rate of 15mm/hr. and other biochemical parameters also within normal limits. Ultrasonography revealed a large 12x9cm cystic mass with multiple echogenic areas and shading in right side of pelvis extending up to umbilicus; suggestive of dermoid cyst. Other imaging studies were not done because clinical picture never suggested so. Under the impression of an ovarian tumor/dermoid cyst, exploratory laparotomy was done. Surgical findings disclosed an ovoid, well encapsulated cystic mass measuring approx. 12x10cm adherent to small gut mesentery and omentum. During dissection of mass from surrounding structure, small amount of viscous greenish colored fluid sucked out. Cyst was completely excised and sent for histopathological evaluation. The cut section of the mass showed a cystic lesion with a thick fibrotic wall containing creamy mucoid material and a single large piece of surgical gauze adherent with the cyst wall.

Inflammatory pseudotumor due to foreign material (gauze piece) was diagnosed. The post-operative period was uneventful and the patient was discharged on the seventh post-operative day.

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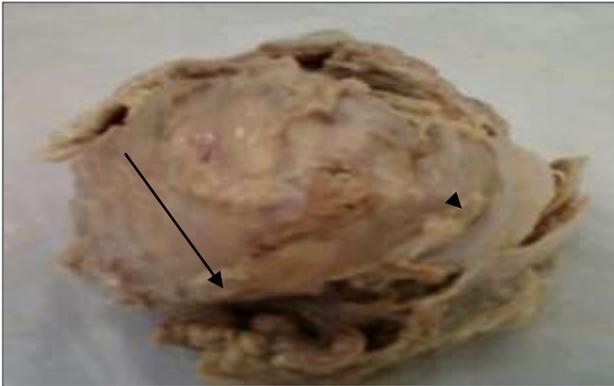


Figure 1: A well encapsulated mass with an attached omentum(arrow).

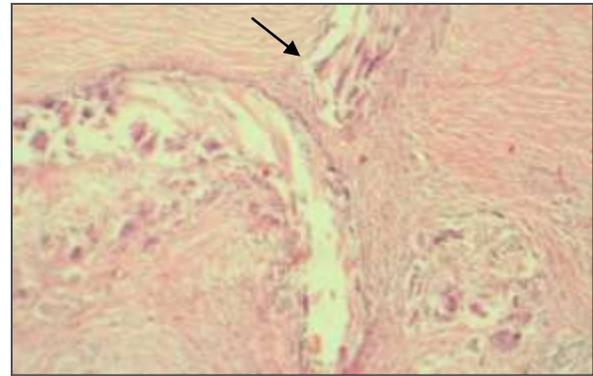


Figure 4: Microscopic finding (HE stain x 40) showing multinucleated giant cells containing acellular refractive foreign material(arrow).

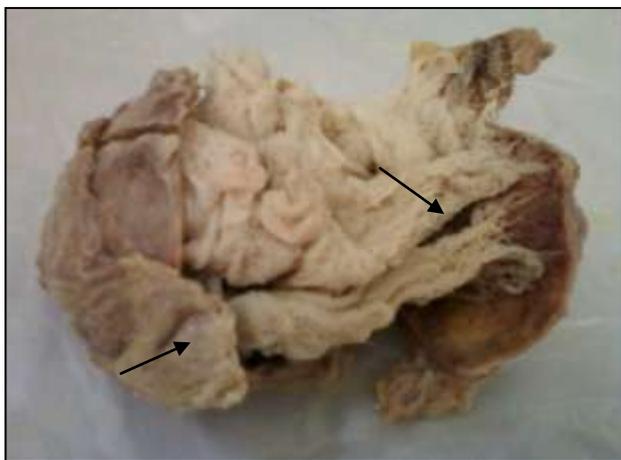


Figure 2: A cystic mass containing a piece of gauze adherent to the wall(arrow)

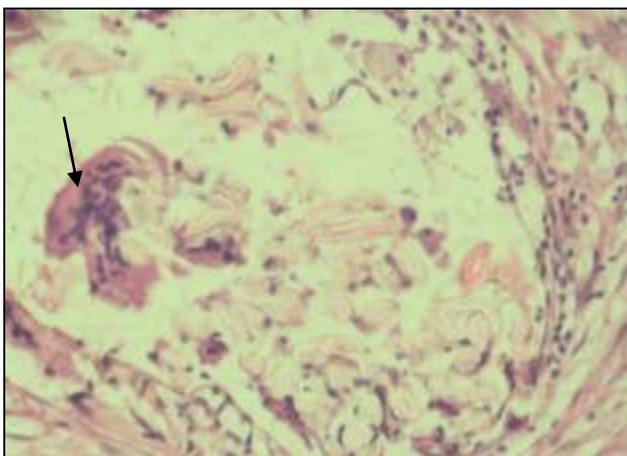


Figure 3: Fibrosis with chronic inflammatory infiltrate & foreign body- type multinucleated giant cells(arrow).

### Discussion

Gossypiboma is an important and preventable iatrogenic complication whose delay in diagnosis and treatment can lead to serious morbidity and mortality. Cases of retained surgical materials are rarely reported due to medicolegal concerns; therefore literature searches revealed little data regarding its prevalence. However, it has been reported as 1 in 1000 to 1500 intra-abdominal open surgeries and 1 in 3000 in all surgical interventions<sup>4,5</sup>.

Studies have shown that the most frequent (69%) type of forgotten foreign body was found to be surgical sponge<sup>6,7</sup>. In such cases surgeries are usually abdominal, particularly pelvic operations in which the depth of region facilitates the disappearance of a blood soaked piece of gauze under the bowel or retractor<sup>8</sup>. Hence gastrointestinal and gynecological surgeries account for about 75% of reported gossypibomas<sup>9</sup>.

It was found that patients with retained foreign bodies were more likely to have had emergency surgeries, an unexpected change in surgical procedure, higher body-mass index and hemorrhagic conditions<sup>10</sup>.

Studies done worldwide as well as in Pakistan have shown that surgeries in most of the cases have been conducted in peripheral clinics or hospitals. Possibly due to lack of facilities and expertise availability in such places hospitals<sup>7,11</sup>. As far as clinical presentation is concerned local studies have shown that abdominal mass, intestinal obstruction, discharging sinus, intra-abdominal abscesses and peritonitis are the common presentation of gossypiboma in our country<sup>2,7</sup>.

The non-absorbable material of the retained surgical foreign bodies induces two types of reactions. One is

exudative type tissue reaction which leads to abscess formation or chronic fistulae; it is found to be usual manifestation appearing in the early post-operative period. Other is aseptic fibrous tissue reaction that creates adhesions and encapsulation, resulting in a foreign body granuloma. Patient with this response are at risk for pseudotumors<sup>12,13</sup>.

This pseudotumor complication occur less frequently due to long term gauze retention and clinically difficult to diagnose because the gauze pieces adhere to the neighboring organs or invade a hollow viscous nearby<sup>12,13</sup>. These lesions present as non-specific abdominal pain or as mass which may easily be confused with malignancy. The radiological appearance of retained surgical gauze varies and is non-specific<sup>1</sup>; a correct preoperative diagnosis is made in about one-third of cases<sup>14</sup> and definite diagnosis of gossypiboma was made after operation or histopathological examination<sup>1</sup>. Tumor or tumor recurrence, post-operative adhesions, invagination and intra-abdominal abscess are the most cited tentative diagnoses<sup>15</sup>. Failure to make a correct pre-operative diagnosis frequently leads to an unnecessary aggressive surgical approach<sup>8</sup>.

In this case, clinical picture of the patient including presenting complaints, physical examination, and laboratory investigations and imaging report had suggested the dermoid cyst of the ovary. It was not coherent with the usual presentation of retained gauze piece therefore possibility of gossypiboma was not considered. This indicates that pseudotumor formation is that rarely occurring complication of retained gauze piece which can easily mimic benign cystic lesion of abdomen including dermoid cyst as occurred in our case.

In conclusion, emphasis should be given to the approach of "Prevention is better than cure". Surgeons as well as operative team should ensure the preventive measures at their best to avoid this iatrogenic complication of gossypiboma. Furthermore, gossypiboma is a diagnostic dilemma due to its nonspecific symptoms and variable radiological findings. This obscure lesion is likely to be ignored by doctors studying differential diagnosis of a post-operative mass<sup>16</sup>. Therefore, when a previous operative history presents along with other risk factors of retained foreign material, gossypiboma should be considered in the differential diagnosis of a patient with an intra-abdominal mass.

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