

Curious Case of Mesh Associated Foreign Body Granuloma – A Case Report

ABSTRACT

Foreign body granuloma represents granulomatous response of the tissue to any foreign body. Many cases of foreign body granuloma with various foreign bodies have been reported. However, mesh acting as a foreign body is quite a rare occurrence. Here, we report a case of a 52-year-old lady who presented to us with the complaints of swelling over abdomen in supraumbilical area for 6 months. The patient had a history of umbilical hernioplasty done 4 years back. On clinical evaluation, the provisional diagnosis of an abdominal wall tumor or recurrent hernia was made. Ultrasound and computed tomography of the abdomen were done which were suggestive of a midline abdominal wall abscess. Excision of the swelling and consecutive histopathological analysis suggested it to be a foreign body granuloma associated with the mesh. Thus, it is very important to keep in mind foreign body granuloma as a differential diagnosis in patients with a history of hernia surgery presenting with swelling in the same region.

Key words: Abdominal Wall Lump, Abdominal Wall Abscess, Foreign Body Granuloma

INTRODUCTION

A foreign body granuloma is a form of chronic inflammation which represents a cellular attempt to eradicate an offending agent that is difficult to eradicate. Usually, the foreign body granulomas are incited by relatively inert foreign bodies which are large enough to preclude phagocytosis and do not incite any specific inflammatory or immune response.^[1] Thus, they present clinically as a painless swelling or an open wound. In most cases, the foreign bodies are accidentally left in the tissue or in some cases purposefully.^[2] One such inert foreign body left purposefully is the mesh used for hernioplasty surgery. Foreign body granulomas have been considered as a rare complication of hernioplasty surgery.^[3] Incidence of such cases is very less as the cases have been found to be under reported.^[4] The most commonly used mesh is the Prolene mesh which can act as a foreign body causing a foreign body granuloma.^[5] These granulomas may mimic an abdominal wall lump or an abdominal wall abscess. Radiological investigations may help but cannot give a definite diagnosis. Thus, it is very important to keep in mind foreign body granuloma as a differential diagnosis in patients with a history of hernia surgery presenting with swelling in the same region. Here, we present clinical, radiological, intraoperative, and histopathological findings of the aforesaid case.

CASE REPORT

A 52-year-old lady presented with a swelling in the supraumbilical region for 6 months. The swelling was insidious onset and gradually progressive. The swelling was not associated with pain, pus discharge fever, or any other

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abdominal complaints. The patient was a known case of diabetes mellitus and hypertension on medication. The patient had a history of umbilical hernia surgery done 4 years back.

1. On examination – General condition of the patient was fair. She was afebrile and the vitals were stable. Per abdominal examination revealed a soft abdomen with no tenderness, guarding, or rigidity. A swelling approximately 10 cm x 9 cm x 7 cm present in the supraumbilical region which was a well-defined swelling, soft to palpate, non-tender, fluctuant, extending 8 cm above the umbilicus and 2 cm below the umbilicus in the midline, showing no signs of inflammation. The swelling was freely mobile and gets more prominent and less motile on the raising the head, that is, on contraction of the abdominal muscles. The swelling cough impulse positive giving an impression of a large umbilical hernia [Figure 1].
2. Investigations – The patient underwent an ultrasonography which



Figure 1: Examination findings of swelling over anterior abdominal wall

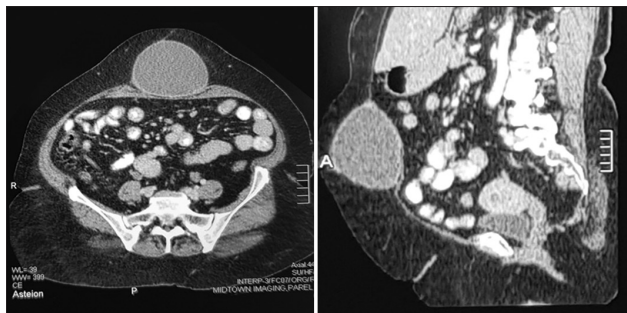


Figure 2: Radiological findings of swelling over anterior abdominal wall



Figure 3: Intraoperative findings on exploration of swelling over anterior abdominal wall

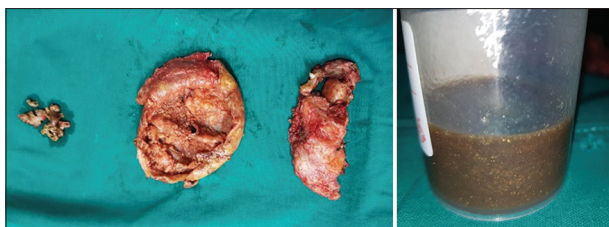


Figure 4: Excised swelling over anterior abdominal wall post-operative specimen

was suggestive of a fairly well-defined hypoechoic lesion seen over the anterior abdominal wall in the midline measuring 10.5 cm x 9 cm x 7 cm swelling showing the presence of settling dense internal echoes within giving impression of a large midline anterior abdominal wall abscess. The patient also underwent a computed tomographic study of the abdomen which showed a subcutaneous peripherally enhancing collection in umbilical region suggestive of abscess formation measuring 7.3 cm x 9.3 cm x 10.6 cm [Figure 2].

3. Intraoperative findings – Intraoperatively, the swelling was dissected aloof from the rest of the normal tissue. The

swelling was present just underneath anterior rectus sheath and right through the posterior rectus sheath just superficial to the peritoneum with mesh from previous umbilical hernia surgery seen underneath. The mesh was seen intact at the base of cyst. The swelling was actually a cyst filled with brownish fluid showing some crystalline structures (cholesterol crystals) as a part of the fluid and a thick muck settled at the base [Figure 3]. The cyst fluid was drained and was sent for culture and tuberculosis (TB) mycobacteria growth indicator tube (MGIT). The cyst wall was excised in toto and was sent for histopathology examination [Figure 4]. The mesh was not removed, since it was completely intact, fibrosed, and integrated with the tissue. The hernia defect was not recreated. However, the anterior and posterior sheath was opened, which was closed with interrupted sutures with 2-0 Prolene.

Histopathology report – The sections reveal fragments of dense hyalinized collagenous tissue lined by foamy histiocytes, siderophages, and foreign body giant cells; with no pyogenic inflammation, granuloma, or malignancy. Culture and TB MGIT reports showed no growth.

DISCUSSION

A swelling over the abdominal wall is quite a common occurrence. Such swelling strikes a diagnosis of an incisional or an umbilical hernia in most cases. However, in cases, where a hernia surgery had already been done and the patient presented with an abdominal wall swelling, an abdominal wall tumor, a recurrent hernia, or even an abdominal wall abscess may come to our mind as the possible differentials. Radiological investigations in many cases may not give any conclusive finding pointing toward a confirm diagnosis. Thus, intraoperatively and even preoperatively, you should be keen enough to keep the possibility of a foreign body granuloma in the mind in cases of abdominal wall swelling with previous history of any surgery.

CONCLUSION

Foreign body granuloma should be considered a differential diagnosis in case of patients presenting with abdominal wall swelling with the previous history of surgery.

Lessons Learned

Foreign body granuloma is a potential differential diagnosis in cases of abdominal wall swelling with the previous history of surgery.

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