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Case Series

The rare travellers

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ABSTRACT

Hernia surgery constitutes one of the major daily operative procedures in the general surgery department. Using of mesh with tension free repair is the most widely used technique. Mesh migration and subsequent perforation account as one of the very rare complications following laparoscopic or open hernia repair. The complications following surgery present with symptoms at different time intervals and are sometimes very difficult to diagnose. We present here a couple of cases of mesh migration resulting in varied clinical symptoms and a diagnostic dilemma. With more emphasis being on non-fixation of meshes in the recent literatures, a lower clinical and diagnostic threshold should be incorporated in diagnosing such complications.

Keywords: Mesh migration, Hernia repair, Hernia surgery complications

INTRODUCTION

The tension-free method with mesh as a muscle reinforcement technique is regarded as an important part of any hernia repair since it reduces the hernia recurrence rate and recovery period. Superficial wound infection and chronic pain associated with prosthetic mesh are well known complications, which mainly occur in the early postoperative period.[1] With the introduction of laparoscopic inguinal hernioplasty the superficial infection rate has decreased dramatically (less than 2%).[1-4] When the mesh comes into contact with the organs of the digestive tract or elsewhere, rigid adhesions can occur, causing intestinal obstruction and migration of the mesh into the internal organs. However, serious complications, such as mesh migration and perforation of adjacent organs, are rarely reported and may present symptoms at different time intervals after hernia repair. The migration of the mesh is believed to occur because of the incomplete peritoneal repair or because of the damage to the peritoneum due to excess tension from the mesh. We present here the reports of 2 cases of inguinal hernia mesh repair and presented for mesh migration at 2 different sites that presented to the department of surgery, Himalayan hospital.

CASE SERIES

Case 1

A 37-year-old Male presented to the OPD with complaints of pus discharge from right iliac fossa for past 3-4 months. He had past history of open appendectomy 10 years back, following which patient developed incisional hernia. Patient then underwent mesh hernioplasty 1 year after appendectomy. Patient then remained asymptomatic for 8 years. Patient developed continuous pus discharge from surgical site for past 1 year. Patient underwent exploration with mesh removal at some other hospital but continued to have pus discharge from the surgical site. Patient was initially managed with antibiotics but continued to have pus discharge from the site. Pus culture was sterile. Imaging studies were inconclusive so patient was again taken for surgery in view of persistent pus discharge from the surgical site. During re-exploration mesh was found to be densely

adhered to one of the ileal loops making it inseparable from it so the affected loop of ileum was resected along with the mesh and ileo-ileal anastomosis was done. Whole of the fistulous tract was also removed. The patient had uneventful post-operative recovery and was subsequently discharged 10 days after the surgery. Histopathology confirmed the presence of foreign body in resected part of ileum.

Figure 1: Skin and sub cutaneous tissue along with fistula tract.

Figure 2: Resected part of ileum along with mesh.

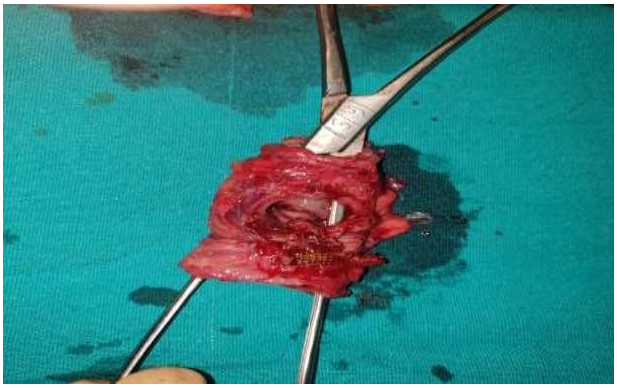

Figure 3: Resected ileal segment of adhered mesh.

Case 2

A 71-year-old male who was k/c/o coronary artery disease, on regular anti platelets (Ecospirin and clopidogrel) presented to the OPD with h/o left total extra peritoneal repair for left inguinal hernia at Chandigarh 4-5 months back with complaints of painless, progressively increasing swelling with bloody discharge approximately 3 cm below and lateral to left side of umbilicus. On local examination patient was found to have a 5x3 cm fluctuant, non-tender, non-mobile swelling with bloody discharge from 3 cm below and lateral to left of umbilicus. Ultrasonography of the swelling showed hypoechoic area along with moving mass inside the swelling

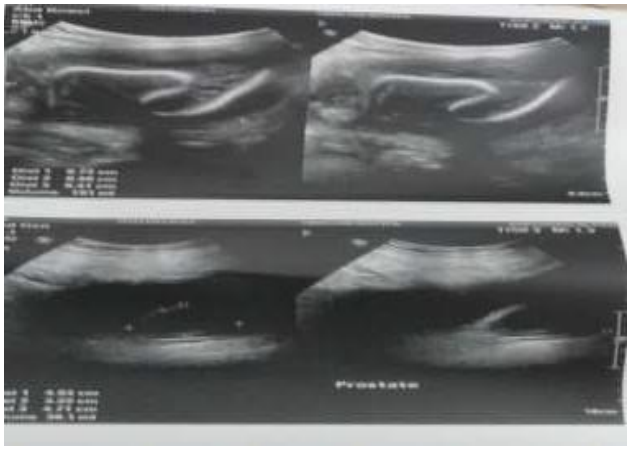

Figure 4: USG of the swelling.

Patient was then taken up for surgery and the mesh was removed along with the haematoma. The cavity was washed and was closed along with drain placement. Post operatively patient had uneventful recovery.

Figure 5: Incised swelling with infected mesh inside it.

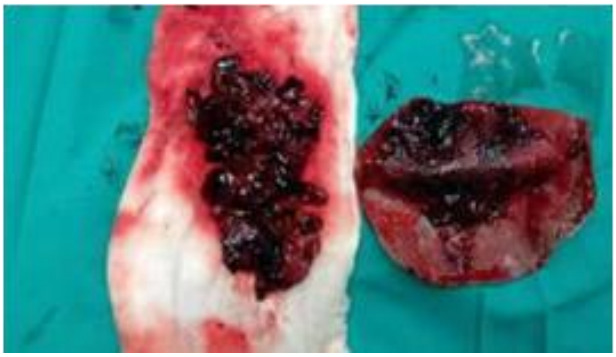

Figure 6: Mesh along with hematoma.

DISCUSSION

Over the past four decades, increasingly wide utilization of hernia-repair mesh during laparoscopic hernioplasty has significantly reduced the recurrence rate of hernias. With the introduction of trocars, mesh implantation is carried out distally from the trocar incision, and the superficial infection rate has decreased dramatically to less than 2%.[5,6] In comparison, other complications induced by mesh, such as foreign body reaction, deep-seated infection, consequent mesh migration and perforation into viscera, have been reported sporadically. Incidence rates for such complications remain unknown. The intestine and urinary bladder were involved in most cases of mesh migration reported from 2003 to 2017.[7] Depending on the different positional relationship of migrating mesh with visceral organs, clinical manifestations vary significantly and may present from 1 to 20 years after hernia repair.[8] Lower abdominal pain and mild tenderness were described in the majority of cases.[4,9] Incomplete peritoneal repair, inadequate fixation or inappropriate amount of implantation space are possible reasons accounting for mesh migrating into intraabdominal viscera, occasionally followed by fistulas formation or mechanical bowel obstruction. In addition, the sharp edges of prosthetic mesh or tackers could injure the viscera serosal layer, initiating the intraabdominal inflammatory process and subsequent mesh erosion. The bowel injury incidence rate ranged between 0.4% and 5.6% in previous studies.[4-6,10,11]

To prevent further erosion of migrating mesh and preserve the function of affected viscera, total removal of the mesh via laparoscopy or laparotomy is advised in clinical practice, along with either partial or entire resection of the organ.[1] Meanwhile, the possible wound sinus or enteric fistulas linked to the mesh should be completely eradicated by excision in combination with medication therapy (antibiotics, somatostatin and parenteral nutrition). Regardless of the type of mesh repair (open or laparoscopic), meticulous care for correct placement and reliable suture is necessary to avoid complications. Suturing the mesh to the surrounding fascia is a critical step during the operation. Tailoring the mesh, appropriate suture placement and adherence to principles of antisepsis during hernia repair surgery are crucial in avoiding long-term mesh-related complications.

CONCLUSION

Mesh migration after inguinal hernia repair is difficult to detect or distinguish *via* imaging modalities due to the nonradiopaque property of mesh prosthesis. Metal clips or tackers used to fasten mesh are radiopaque but still occasionally missed. Inflammatory tissue formation caused by foreign body can prevent an accurate preoperative diagnosis.

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