



## **CASE REPORT**

### **ENTEROCUTANEOUS FISTULA DUE TO TACKER FOLLOWING LAPAROSCOPIC VENTRAL HERNIA REPAIR**

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#### **ABSTRACT:**

Laparoscopic surgeries are playing vital role in present era. Laparoscopic ventral hernia repair is amongst commonly performed laparoscopic surgeries. It is usually done with meshplasty. To fix this mesh different modalities have been used. Fixation with tackers is most commonly used method for it. But this tacker may lead to some unwanted complications. Present case report is describing one such complication developed due to tacker fixation of mesh. A case of enterocutaneous fistula due to tacker following laparoscopic ventral hernia repair, a delayed complication of tacker is presented.

**Key words:** Tacker, enterocutaneous fistula, Delayed complication

#### **INTRODUCTION**

Tackers are often used to fix the mesh in the laparoscopic repair of ventral hernia. Their use is easy, less time consuming but occasionally they may cause complications. We report a case of small bowel fistula due to tacker. A 65 years old male presented with bilious discharge from scar site of infraumbilical hernia. He was operated 1 year back with laparoscopic repair of ventral hernia. On exploration, badly infected gortex mesh with multiple tackers and badly adhered small bowel loop with ileal perforation due to tacker was found.

#### **CASE REPORT**

A 65 years old male presented with foul smelling discharge through infraumbilical region of previous scar since 3 days. Patient also had history of pain in abdomen since 5 days. It was continuous dull aching type associated with low grade intermittent fever. He gave history of chronic constipation.

His past history revealed exploratory laparotomy done for perforative peritonitis 5 yrs back. He had develop incisional hernia following this surgery. He was operated laparoscopically with mesh placement for incisional hernia one year back. There was no history of diabetes, tuberculosis, bronchial asthma.



On examination, foul smelling biliary discharge was present through infraumbilical scar site. There was 2-3 cm sized defect through which white coloured mesh could be seen (Fig.1). Rest of the abdomen was soft with no sign of generalised peritonitis.

On investigation, all blood tests were within normal limits. Ultrasonography (USG) of abdomen was suggestive of 4x2.6cm sized defect seen in midline in anterior abdominal wall below umbilicus communicating with peritoneum and bowel loop herniating through it. Computed tomography (CT) suggestive of adhered small bowel loop with anterior abdominal wall with mesh in situ with rectus sheath defect

Exploratory laparotomy through previous vertical midline scar was done. Intraoperatively, infected gortex mesh with multiple tackers were found in extraperitoneal plane (Fig.2a&b). The free end of one the tackers was seen going through the bowel wall which was the cause of enteric fistula. Gortex mesh was dissected out. Small bowel loop was found to be badly adherent too mesh. Perforation was 0.5 cm in size with ragged oedematous margins(Fig 3a&b). Resection and primary anastomosis of perforated small bowel was done. Peritoneal lavage was given. Abdomen was closed with non absorbable suture material. Postoperative course was uneventful. Follow up of one year has shown him to be disease and symptom free.



Fig. 1 – Infraumbilical scar site defect through which white coloured mesh seen with bilious discharge

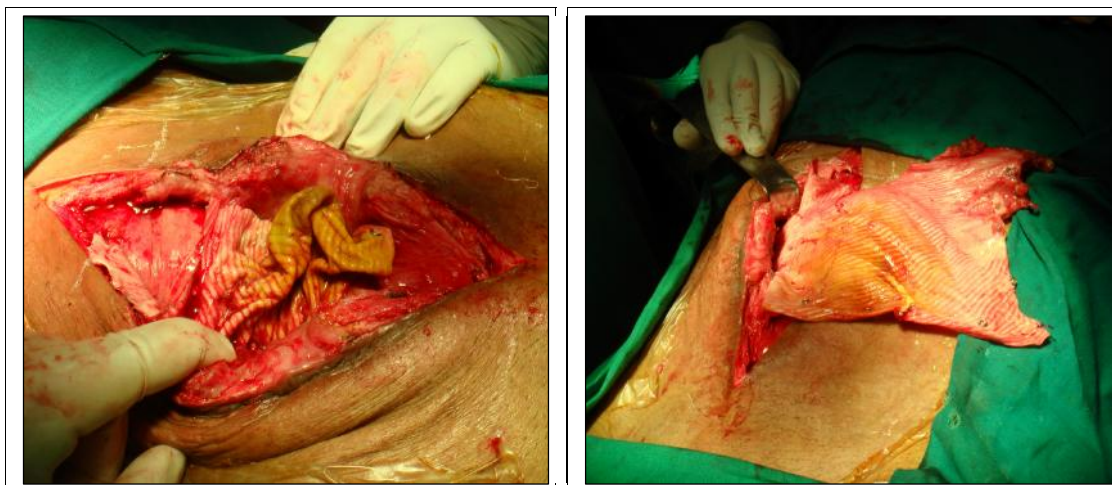


Fig. 2a & 2b – Intraoperative images of mesh with tacks

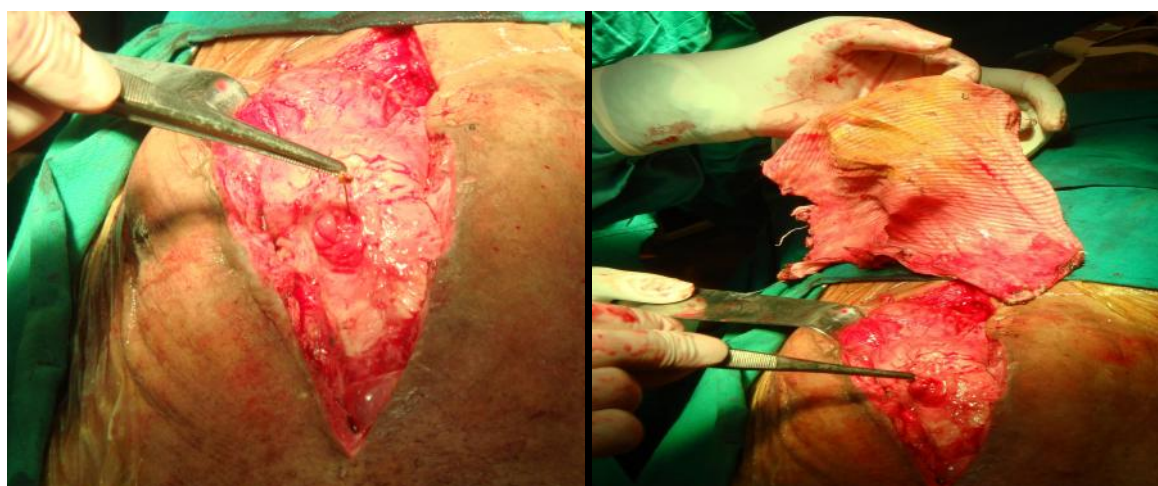


Fig. 3a & 3b – Small bowel perforation and mesh with tacker causing it

## DISCUSSION

In this technological era, lot of advances have been developed by human being in medical field. Nowadays people are quite aware of many advanced techniques or methods to deal with surgical diseases. Patients demand for laparoscopic, endoscopic and other minimal invasive procedures. Minimal invasive surgeries are playing major role in present era. Laparoscopic appendectomy, cholecystectomy, inguinal and ventral hernia repair, nissen's fundoplication and many other surgeries are commonly performed nowadays.

Laparoscopic techniques are commonly used due to their advantages over open surgeries. There is faster recovery, less pain, shorter hospital stay, low complication rates and less recurrence with laparoscopic procedures.

Laparoscopic hernioplasty is one the most performed laparoscopic surgery. It involves the use of sutures, staples, tackers or glue for safe, secure mesh fixation. The fixation of mesh in the



laparoscopic repair of ventral hernia with tackers is a standard technique. Compared to suture fixation, the mesh fixation by tacker is relatively faster and easier. But few complication may occur due to this mesh and fixing devices. There are rare reports of tacker related complications of adhesions, pain, hernia, intestinal obstruction, perforation of the bowel or urinary bladder and even death.

The length of a tacker is 4 mm long and depending on the thickness of tissue it may penetrate the neighbouring structures with disastrous complication. If not carefully fixed these tackers can fall into the abdominal cavity or the sharp end of a tacker which is not buried properly may cause injury over a period of time even with normal patient movement<sup>(1)</sup>. In present case, the free end of tacker was cause of bowel perforation and subsequent fistula. However the uniqueness was delayed presentation of this complication that is 1 year after laparoscopic surgery.

For the tacker fixation to be secure, the tacker must drive all the way into the abdominal wall fascia. Depending on the thickness of the mesh, the abdominal wall and the preperitoneal fat, the tackers sometimes are not long enough to have a good hold on the fascia to secure the mesh. Improper fixation can leave a loose tacker in the abdominal cavity or a sharp protruding end giving rise to complications.

Golash et al<sup>(2)</sup> presented a case of large gut fistula due to protruding spiral tacker after laparoscopic repair of a ventral hernia after 20 days of surgery in 50 years old female. A sinogram performed through the sinus opening showed the contrast tracking to the site of a tacker and on further injection it filled a part of the proximal transverse colon. A tacker had eroded into the colon resulting in a fistula. Exploratory laprotomy was performed with limited right hemicolectomy with excision of mesh. In present case, tacker related small bowel perforation and enteric fistula occurred 1 year after laparoscopic hernia meshpasty. Patient was managed with exploratory laparotomy with excision of mesh and tackers and resection anastomosis of perforated small bowel. Ladurer and Mussack et al<sup>(3)</sup> reported a case of small bowel perforation due to protruding spiral tackers as a rare complication in laparoscopic incisional hernia repair. The patient reported by them present within 17 days of surgery. However, in present case, patient was present one year after laparoscopic incisional hernia repair. Peach and Tan et al<sup>(4)</sup> reported a small bowel obstruction and perforation due to displaced spiral tacker as rare complication of laparoscopic inguinal hernia repair.

Previously titanium spiral tackers were used commonly, with which such complication may occur with higher rate. Nowadays absorbable tackers are available. So, we may be able to overcome with such complications. But we have to keep in mind these possibilities of complications and should explain the patients. Alternative techniques of suture fixation of mesh may avoid the tacker related complication. More studies required to study safer methods of mesh fixation.

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