

**EMERGENCY MESH HERNIOPLASTY WITH ADHESIOLYSIS IN OBSTRUCTED
INCISIONAL HERNIA WITH MULTIPLE FASCIAL DEFECTS FOLLOWING TUBAL
LIGATION: A CASE REPORT****Dr. Saiprasad B. Kottawar*¹, Dr. Rashmi A. Kale²**¹M.S. Scholar (Shalyatantra), Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, Maharashtra.²HOD, Professor, M.D. Phd (Shalyatantra), Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, Maharashtra.***Corresponding Author: Dr. Saiprasad B. Kottawar**

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DOI: <https://doi.org/10.5281/zenodo.23829051>**How to cite this Article:** Dr. Saiprasad B. Kottawar*¹, Dr. Rashmi A. Kale² (2026). Emergency Mesh Hernioplasty With Adhesiolysis In Obstructed Incisional Hernia With Multiple Fascial Defects Following Tubal Ligation: A Case Report. World Journal of Pharmaceutical and Medical Research, 12(11), 283–287.

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Article Received on 22/09/2026

Article Revised on 12/10/2026

Article Published on 01/11/2026

ABSTRACT

Introduction: Obstructed incisional hernia is a potentially serious complication of previous abdominal surgery and requires timely assessment and appropriate surgical management. The presence of multiple fascial defects and dense intra-abdominal adhesions can make emergency exploration technically challenging and increases the risk of bowel injury. The use of prosthetic mesh in emergency hernia repair requires careful assessment of bowel viability and the degree of contamination. **Case Presentation:** A 46-year-old female presented with acute-onset lower abdominal pain and a tender, irreducible swelling at the site of a previous operative scar following tubal ligation approximately 10 years earlier. Ultrasonography demonstrated a bowel-containing incisional hernia with features suggestive of obstruction. The patient was hemodynamically stable, with no clinical evidence of generalized peritonitis. **Intervention:** Emergency surgical exploration was performed. Multiple fascial defects with dense adhesions between the bowel loops and anterior abdominal wall were identified. Careful adhesiolysis was performed, and the obstructed small-bowel loops were reduced after confirming viability. There was no gangrene, perforation, or gross contamination. The multiple defects were delineated and repaired using tension-free polypropylene mesh with adequate overlap. **Outcome:** The postoperative recovery was uneventful. The patient tolerated gradual reintroduction of oral intake and was mobilized appropriately. No surgical-site infection, mesh-related complication, or clinically significant seroma was observed during the reported postoperative period. The patient was discharged in stable condition. At follow-up, she remained asymptomatic without recurrent swelling or obstructive symptoms. **Follow-up duration:** 6 weeks. **Conclusion:** Emergency mesh repair may be considered in carefully selected patients with obstructed incisional hernia when the bowel remains viable and the operative field is suitable for prosthetic mesh placement. Identification of all fascial defects, meticulous adhesiolysis, assessment of bowel viability, adequate mesh overlap, and tension-free fixation are important for successful repair.

KEYWORDS: Obstructed incisional hernia; Incisional hernia; Adhesiolysis; Mesh hernioplasty; Emergency surgery; Multiple fascial defects; Swiss cheese defect.

INTRODUCTION

Incisional hernia is a recognized complication following abdominal surgery and occurs because of failure or weakness of fascial healing.^[1] It may remain asymptomatic or present with pain, irreducibility, incarceration, intestinal obstruction, or strangulation. Obstruction represents a surgical emergency because persistent compromise may progress to bowel ischemia, necrosis, and perforation.^[2]

Complex incisional hernias may consist of multiple fascial defects separated by bridges of relatively intact fascia, producing a characteristic “Swiss cheese” configuration.^[3] Failure to recognize and address all defects may result in an inadequate repair and increase the risk of recurrence. Dense adhesions between bowel loops and the abdominal wall may further complicate operative exploration and increase the risk of accidental enterotomy.^[4]

Emergency repair of complicated abdominal wall hernias requires assessment of the condition of the bowel and the degree of contamination. Although prosthetic mesh has traditionally been used cautiously in emergency settings because of concerns regarding infection, mesh repair can be considered in selected clean or appropriately controlled operative fields when bowel viability is preserved and there is no gross contamination.^[5]

We present a case of obstructed incisional hernia with multiple fascial defects and dense intra-abdominal adhesions following previous tubal ligation. The patient was successfully managed by emergency exploration, meticulous adhesiolysis, reduction of viable bowel, and polypropylene mesh hernioplasty.

CASE PRESENTATION

Patient Information

A 46-year-old female presented to the surgical department with acute-onset lower abdominal pain associated with a painful swelling over the site of a previous operative scar. The patient had undergone tubal

ligation approximately 10 years ago. The patient reported mild nausea. There was no history of vomiting or obstipation. No any Medical and Surgical history. No any Drug history. No any family and psychosocial history.

CLINICAL FINDINGS

On examination, the patient was hemodynamically stable. A tender, irreducible swelling was present over the previous operative site. Cough impulse was absent. The abdomen was mildly distended. There were no clinical features of generalized peritonitis.

Vital parameters at presentation were

Pulse rate: 84 beats/min

Blood pressure: 100/60 mmHg

Respiratory rate: 24 breaths/min

Temperature: Afebrile

SpO₂: 98 %

On local examination, a bulge of approx. size 6x6 Cm present at left anterior abdominal wall.

TIMELINE

Time	Clinical event
2016	Tubal ligation performed
February 2026	Onset of abdominal swelling and pain
05 May 2026	Acute abdominal pain with tender, irreducible swelling seen, clinical and ultrasonographic assessment done, diagnosis of obstructed incisional hernia. Resuscitation, nil per oral, nasogastric decompression and antibiotic therapy given. Emergency surgical exploration done. Adhesiolysis, reduction of viable bowel and mesh hernioplasty done
06 May 2026	Gradual return of bowel function and Nbm break with sips of water, Drain collection was 50 cc serosanguinous in nature.
07 May 2026	Dressing was done, wound was healthy, mild discharge seen, stitches intact, no gapping seen, Drain was 40 cc and serosanguinous in nature.
09 May 2026	Hospital discharge given on postoperative day 4, Dressing done, wound was healthy, no discharge seen, stitches intact, no gapping seen, Drain was 30cc and serosanguinous in nature.
Follow up on 12 May 2026	Dressing was done. Wound was healthy, Drain was minimal and serous in nature. Drain was removed.
Follow up on 17 May 2026	Dressing was done. Wound was healthy. All stitches was removed
Follow up on 20 June 2026	Patient was asymptomatic. There was no evidence of recurrent swelling or obstructive symptoms.

DIAGNOSTIC ASSESSMENT

Laboratory investigations demonstrated mild leukocytosis.

Relevant laboratory investigations were.

Hemoglobin: 12.6

Total leukocyte count: 10680

Neutrophils: 63.4

Platelet count: 281000

Serum creatinine: 0.86

Serum electrolytes: Na⁺ 138, K-3.8, Ca-1.02

HIV : Negative

Hbsag : Negative

Other relevant investigations

Ultrasonography of the abdominal wall demonstrated a hernial defect size of approx 36mm containing bowel

loops. The involved bowel loops were dilated and showed reduced peristaltic activity, suggestive of intestinal obstruction.

The clinical and imaging findings supported a diagnosis of obstructed incisional hernia.

Differential Diagnosis

The clinical differential diagnoses included Incarcerated incisional hernia, Strangulated incisional hernia, localized abdominal wall collection, Meckels diverticulitis, Abdominal tumours.

The absence of clinical generalized peritonitis and the subsequent operative finding of viable bowel supported

the final diagnosis of obstructed rather than strangulated incisional hernia.

THERAPEUTIC INTERVENTION

Initial Management

The patient was kept nil per oral and intravenous fluid resuscitation was initiated. Nasogastric decompression and broad-spectrum antibiotic coverage were administered.

In view of the irreducible hernia and clinical and ultrasonographic evidence of bowel obstruction, emergency surgical exploration was planned.

Surgical Procedure

The operation was performed under spinal anaesthesia through an incision over the previous operative site.

Exploration revealed multiple dense adhesions between the bowel loops and the anterior abdominal wall. Multiple fascial defects were identified, producing a "Swiss cheese" configuration. The hernial sac contained obstructed small-bowel loops.

The involved bowel was edematous but viable. Viability was assessed by preserved pink coloration, peristaltic activity, and mesenteric pulsations. There was no

evidence of bowel gangrene, perforation, or gross contamination.

Meticulous adhesiolysis was performed using controlled sharp and blunt techniques to release the bowel loops from the surrounding adhesions. Particular care was taken to avoid accidental bowel injury.

The viable bowel was reduced into the abdominal cavity. The entire abdominal wall was inspected to identify and delineate the multiple fascial defects.

The defects were closed with prolene 0 in simple interrupted manner.

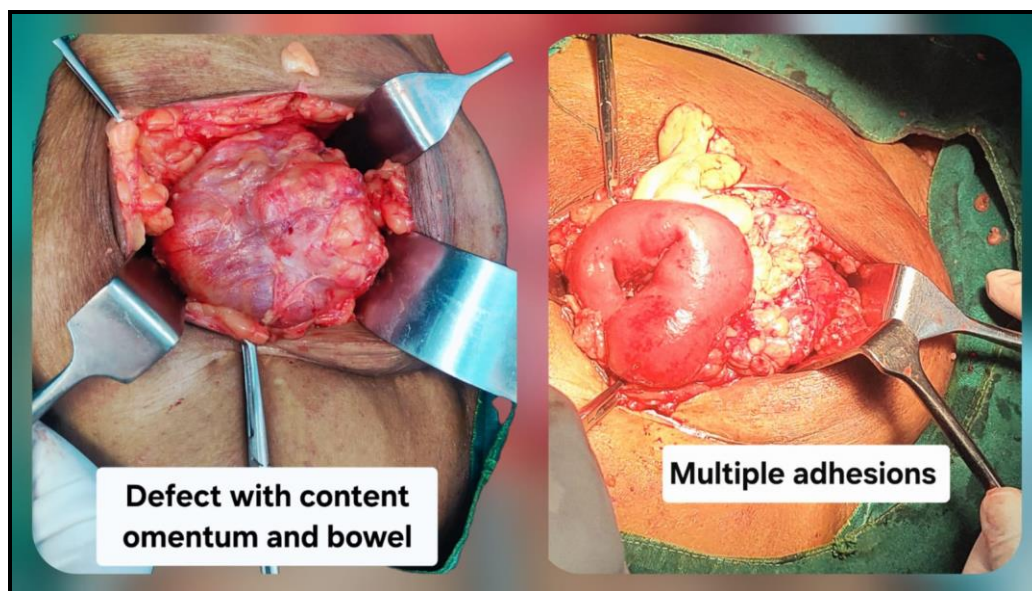
A polypropylene mesh measuring 12x12 cm was placed over anterior rectus sheath with adequate overlap of the fascial margins. The mesh was fixed with prolene 2.0.

Hemostasis was achieved. A Negative suction drain [Romovac Drain No.14] was fixed with linen over mesh.

Subcutaneous layer sutured with Vicryl 2.0 in simple interrupted manner.

Skin sutured with Ethilon 2.0 in vertical mattress manner.

No bowel resection was required because the involved bowel remained viable.



POSTOPERATIVE CARE

Postoperatively, the patient received appropriate analgesia, antibiotic therapy, fluid management, and routine wound care. Early mobilization was encouraged. Oral intake was gradually resumed following satisfactory return of bowel function. The surgical wound site was monitored for evidence of infection, seroma, hematoma, or other complications. Alternate day dressing was done. Abdominal Binder was given for 6 month.

FOLLOW-UP AND OUTCOMES

The postoperative recovery was uneventful.

There was no evidence of any seroma formation, no any discharge from wound site, no any wound dehiscence seen, wound was healthy.

The patient was discharged in stable condition on postoperative day 4.

At follow-up after 6 weeks, the patient was asymptomatic. There was no evidence of recurrent swelling or obstructive symptoms.

The abdominal wound was well healed and the patient had resumed daily activities with less strenuous work.

PATIENT PERSPECTIVE

The patient reported that the acute painful swelling and abdominal discomfort associated with the hernia were distressing and affected her daily activities. After surgery the pain and swelling improved. The was satisfied with the treatment and recovery.

DISCUSSION

Obstructed incisional hernia requires prompt clinical assessment because persistent obstruction may progress to strangulation, bowel ischemia, necrosis, and perforation. Emergency management becomes technically more demanding when multiple fascial defects and dense intra-abdominal adhesions are present.^[6]

In the present case, the patient had an incisional hernia at the site of previous tubal ligation, with multiple fascial defects and obstructed small-bowel loops. The intraoperative finding of viable bowel without gangrene, perforation, or gross contamination was an important factor in determining the suitability of prosthetic mesh repair.

The “Swiss cheese” defect represents multiple defects within the abdominal wall separated by intervening fascial bridges. A major problem was complete identification of the defect complex because failure to identify additional defects may result in incomplete abdominal wall reconstruction and may contribute to recurrence.^[7]

Adhesiolysis was very important in this procedure. Dense adhesions between bowel and the abdominal wall may mask the hernial defect and increase the possibility of enterotomy.^[4] Controlled adhesiolysis and careful tissue handling with identification of tissue planes are very important during emergency exploration.

The decision to use prosthetic mesh in emergency hernia surgery should be done on the basis of viability of bowel, any evidence of any infection, the presence or absence of perforation, the degree of contamination, the quality of the operative field. In the present case, the bowel was viable and there was no perforation, gangrene, or gross contamination. Polypropylene mesh was therefore used to provide a tension-free repair.^[8]

Adequate mesh overlap and secure fixation are important technical principles in mesh-based abdominal wall reconstruction. In addition, all fascial defects should be identified before definitive repair.

The present case is clinically relevant because it combines three challenging features: obstruction, multiple fascial defects, and dense adhesions. The successful outcome supports individualized operative decision-making rather than considering all emergency hernias unsuitable for mesh repair.

Strengths

- Clear clinical presentation of an obstructed incisional hernia, allowing timely recognition and emergency surgical management.
- Intraoperative identification and documentation of multiple fascial defects, highlighting the complexity of the hernia.

- Detailed documentation of dense intra-abdominal adhesions and the requirement for careful adhesiolysis.
- Intraoperative confirmation of bowel viability before mesh placement, supporting the safety of prosthetic repair in the selected case.
- Successful tension-free polypropylene mesh hernioplasty without bowel resection, with satisfactory postoperative recovery.
- Postoperative follow-up demonstrating favorable clinical outcome and absence of early postoperative complications.

Limitations

This is a single case report and therefore cannot establish the superiority of emergency mesh repair over alternative techniques.

The duration of follow-up is limited to 6 weeks, and longer follow-up is necessary to assess late recurrence and mesh-related complications.

CONCLUSION

Obstructed incisional hernia with multiple fascial defects and dense adhesions represents a technically challenging emergency surgical condition. Early recognition, adequate resuscitation, timely exploration, meticulous adhesiolysis, and careful assessment of bowel viability are essential.

In this patients with viable bowel and no gross contamination, tension-free polypropylene mesh hernioplasty can be considered as a definitive repair. Complete identification of all fascial defects, adequate mesh overlap, secure fixation, and careful postoperative follow-up are important for achieving a durable outcome.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying clinical information. The patient was informed that identifying personal information would not be published. The signed consent form is available separately as required by the journal.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest related to this case report.

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