A rare case of acute intestinal obstruction due to bowel entrapment in migrated onlay polypropylene mesh

SK Tiwari, Pawanindra Lal

Department of Surgery, Maulana Azad Medical College and Lok Nayak Hospital, New Delhi, India

ABSTRACT

Onlay mesh hernioplasty is the gold standard technique in the management of inguinal hernias. We report a rare case of intraperitoneal mesh migration with bowel entrapment causing acute intestinal obstruction in an elderly patient.

KEYWORDS

Onlay mesh – Inguinal hernia repair – Acute intestinal obstruction

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CORRESPONDENCE TO

Santosh Tiwari, Department of General Surgery, Maulana Azad Medical College, 2 Bahadur Shah Zafar Marg, New Delhi – 110 002, India
E: dr.santosh777@gmail.com

Case History

A 70-year-old man presented as a surgical emergency with a 2-day history of colicky pain from central abdominal distension, multiple episodes of bilious vomiting and an inability to pass stools or flatus. He had a past surgical history of right open mesh inguinal hernia repair performed 20 years earlier.

On examination, the patient's vital signs were stable and a scar was visible in the right inguinal region. His abdomen was distended with generalised guarding, absent rigidity or rebound tenderness and increased bowel sounds. Haematology and serum biochemistry were essentially normal. An abdominal x-ray showed multiple dilated small bowel loops with multiple air fluid levels.

With a provisional diagnosis of acute intestinal obstruction, the patient was explored with a midline laparotomy. The ileum was found to be dilated and a 7cm long segment was trapped in fibrosis owing to crumpled, migrated mesh lying in the peritoneum (Figs 1 and 2).

Densely adherent bowel was excised and bowel anastomosis was performed with single layer extramucosal repair. The entire intraperitoneal adherent mesh was removed except for a 1cm strip that was densely adherent to the femoral vessels. The patient made an uneventful postoperative recovery.

Discussion

Lichtenstein mesh hernioplasty, in which the mesh is placed anterior to the fascia transversalis, remains the most common surgical procedure worldwide. There are several reports of

mesh migration secondary to laparoscopic extraperitoneal repair, where the mesh has migrated from outside to inside the peritoneum, leading to adherent bowel obstruction,^{1–5} involving the bladder and caecum.^{4,5} Bowel obstruction secondary to an open mesh plug hernioplasty (first described by Rutkow and Robbins) and Prolene® Hernia System (Ethicon, Somerville, NJ, US) repair has also been reported.^{6,7} However, mesh migration after open onlay (Lichtenstein) mesh hernioplasty has been reported rarely in the literature.⁸

Figure 1 Intraoperative photograph of crumpled, migrated polypropylene mesh with bowel entrapment and proximal dilated bowel

Conclusions

Migration of onlay mesh into the peritoneum is extremely uncommon and migration of mesh leading to bowel obstruction after a Lichtenstein operation remains a rare entity. Nevertheless, before performing an exploratory laparotomy for bowel obstruction, one should keep in mind that past

history of any mesh hernioplasty may give rise to adherent bowel obstruction.

The diagnosis is essentially clinical and early surgery should be carried out with initial preoperative care of the patient. The mainstay of surgery is to perform sharp adhesiolysis, avoiding trauma to the bowel and vital structures. An attempt should be made to remove the mesh as far as possible and perform resection anastomosis whenever the integrity of bowel is in doubt.

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