



Acute Intestinal Obstruction Following Laparoscopic Ventral Hernia Repair: An Unusual Complication in Immediate Post-operative Period

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Authors' contributions

This work was carried out in collaboration between both authors. Author AM designed the study, performed the statistical analysis and wrote the protocol. Author CKVRSPK wrote the first draft of the manuscript, managed the analyses of the study and managed the literature searches. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Laparoscopic ventral hernia repair is one of the most common procedures performed in surgical practice worldwide. Intestinal obstruction is an extremely rare complication that can occur peri-operatively and needs to be dealt with extra caution. This article describes a case report of intestinal obstruction in the immediate post-operative period of a ventral hernia repair, technical details of how to deal with this complication and along with a review of literature on the topic.

Keywords: Laparoscopic ventral hernia; post-operative period; surgery; intestinal obstruction.

1. INTRODUCTION

Laparoscopic ventral hernia repair [LVHR] is one of the most common procedures

performed worldwide and perhaps forms the major portion of work in any general surgical practice. The occurrence of intestinal obstruction following LVHR is only about 2.5%,

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this report describes the occurrence of it in the immediate post-operative period, discusses reasons and tips for management.

2. CASE PRESENTATION

A 60-year-old man was admitted for LVHR. The patient was a known asthmatic, for which he was using regular medication in the form of inhaler and oral bronchodilators. On physical examination there were two defects in umbilical and supraumbilical region. Ultrasound abdomen revealed ventral hernias present in the umbilical and the supra umbilical regions. The sizes of the defects were 2X3 cm and 2X2 cm respectively. He was taken up for LVHR after informed consent. The ventral hernia was repaired by the standard Intra-Peritoneal On-lay Mesh (IPOM-PLUS) technique (Fig. 1. IPOM-PLUS repair).

The mesh used is the dual mesh of size 3 X 6 inches. Dual mesh implies polypropylene on its parietal surface and polypropylene with a coating of cellulose on the visceral surface to prevent adhesions to the bowel.

Post operatively the patient was managed on intravenous fluids, antibiotics and analgesics.

On the 2nd postoperative day, he had shortness of breath along with abdominal

pain and distension. He was shifted to the AMCU (acute medical care unit) in view of fall in oxygen saturation levels. Patient was put on oxygen inhalation, intravenous fluids and electrolyte correction was done as he was found to have hypokalemia. Patient was kept on nil per oral and ryles tube was put and continuous aspiration done. On the 3rd post-operative day patient passed flatus and, on the 5th post-operative day he passed stool. However, he continued to have abdominal distension. An erect abdominal X-ray was suggestive of dilated bowel loops. He became restless, disoriented and had fluctuation in B.P and had further fall in oxygen saturation levels for which he was intubated. A CT Scan abdomen was done and was suggestive of intestinal obstruction (Fig. 2. CT-SCAN of the patient showing dilated proximal loops and collapsed distal loops S/O INTESTINAL OBSTRUCTION).

On the 10th post-operative day, i.e., 2 days after intubation he was extubated owing to the improved clinical condition. He responded well to this management and recovered well thereafter. The abdominal distension subsided; the ryle's tube was removed, orally tolerated feeds well. He was discharged on the 14th post-operative day, with a routine post-operative discharge advice.

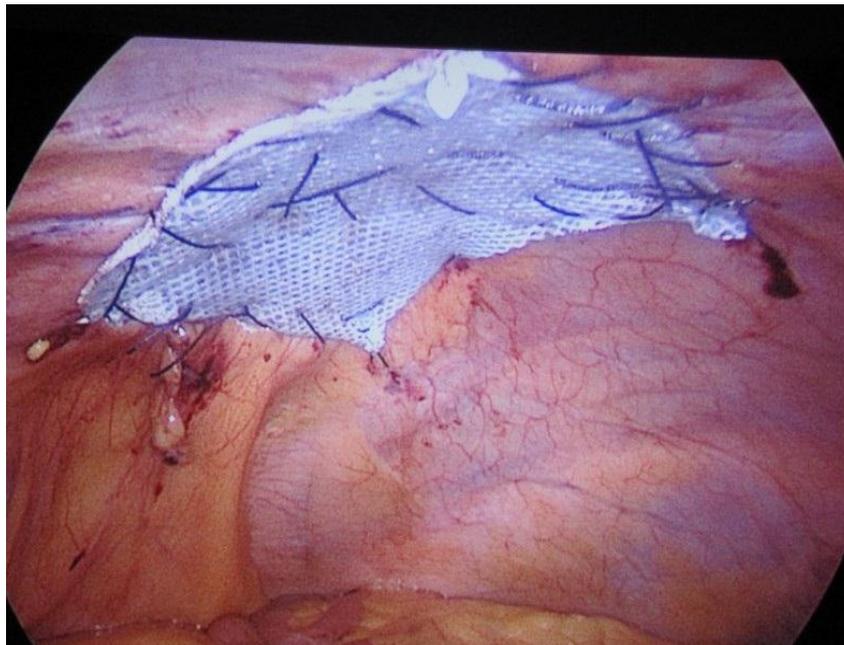


Fig. 1. Showing IPOM-PLUS repair

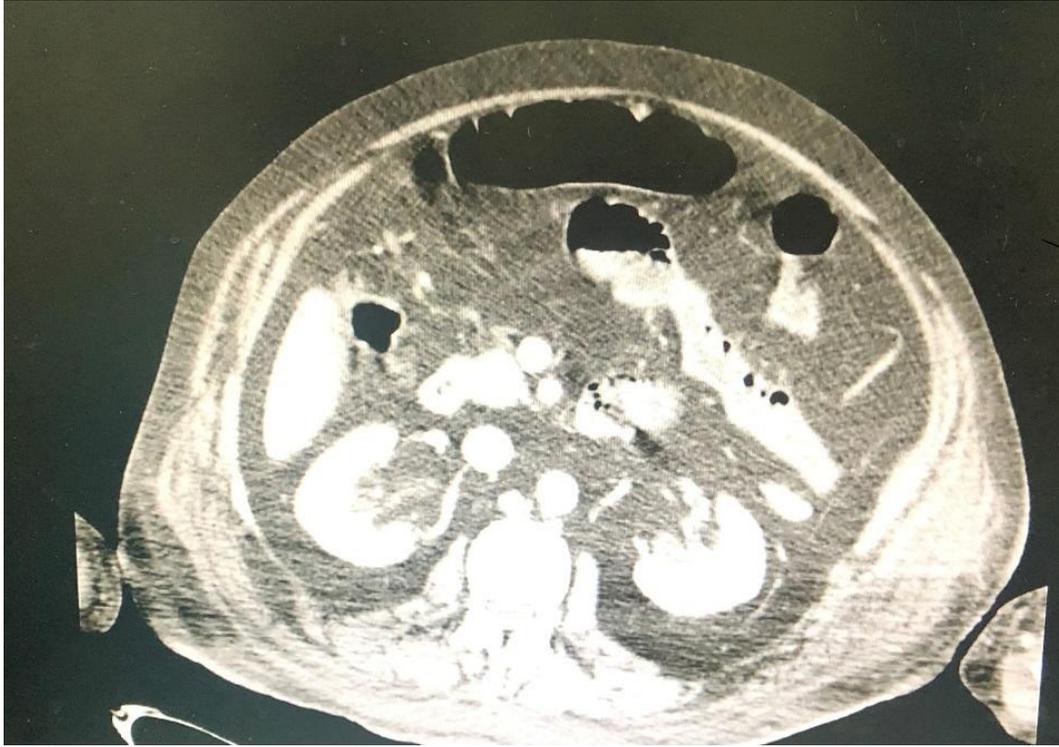


Fig. 2. Showing CT-Abdomen of the patient with dilated proximal loops and collapsed distal loops S/O intestinal obstruction

3. DISCUSSION AND CONCLUSION

At our institution, this is the only intestinal obstruction that has occurred in about 250 LVHRs [0.004%] done over a period of 10 years.

LVHR is one of the most performed procedures in the surgical practice. The reason for LVHR to gain popularity in the recent past is because of the efficacy of the procedure and due to the distinct advantages of laparoscopy. Complications do occur in LVHR but are very rare. According to Duron JJ et al [1] the occurrence of intestinal obstruction following LVHR is only about 2.5%, and it is either due to the port or the mesh related factors. To diagnose such conditions high index of suspicion is required and CT scan can help in the confirmation of the diagnosis [2].

The management of such a condition requires high index of clinical suspicion and expertise of the surgeon. In our case a conservative approach was tried because we had used a dual mesh in which the bowel is usually not exposed to the polypropylene side of the mesh which is

responsible for forming adhesions. A little patience is required in treating such patients as any intervention on 7th -10th day of post laparoscopic procedure may lead to bowel injury during adhesiolysis. However, one is left with no option but to explore if conservative management fails. It is better to do an open exploration, however in experts' hands even a laparoscopic approach can be tried.

These patients should be carefully followed as they have high chances of having similar episodes of sub-acute intestinal obstruction (SAIO) or acute intestinal obstruction (AIO) in future. It is difficult to postulate that even after using a dual mesh, there might be severe reaction to it from patients leading to some sort of flimsy adhesion formation leading to SAIO. The rate of recurrence is about one-third of the population undergoing LVHR according to Klinge et al. [3].

CONSENT AND ETHICAL APPROVAL

As per university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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