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Bowel Herniation Through the Laparoscopic Trocar site: A Case Report

Alawi Hassan* Mohammed A Saboor** Faeza Haider***

We report a 62 year old Bahraini housewife who presented with duodenal ulcer disease. The patient underwent Laparoscopic Cholecystectomy. This was the first patient to develop post operative bowel herniation through the laparoscopic site.

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Laparoscopic Cholecystectomy is now firmly established as the gold standard therapy for symptomatic gall stone disease[1]. Bile duct injury is thought to be the most frequent complication[2]. Sub-umbilical hernia at the trocar site after laparoscopic cholecystectomy has been reported recently. It occurred several months after the operation[3]. Early post operative bowel herniation through the laparoscopic trocar site causing acute intestinal obstruction and required resection anastomosis is an unusual case which we report.

THE CASE

A 62 year old Bahraini, housewife, known case of duodenal ulcer disease, admitted with epigastric]pain radiating to the back, accompanied with nausea but no vomiting. Patient had an upper abdominal ultrasound which showed multiple gall bladder stones with thickened bladder wall.

The patient underwent Laparoscopic Cholecystectomy where the procedure was uneventful. Two 10mm and two 5mm trocars are used as working ports. The 10mm subumbilical trocar inserted by blunt technique without dissection and the other three trocars inserted under direct intraperitoneal laparoscopic vision. The gall bladder contained 47 stones which were extracted through the epigastric trocar. The trocar sites were closed with Nylon 3/0 interrupted sutures.

On the first post operative day she did not tolerate oral fluids and developed bilious vomiting without any abdominal complaint. The patient was monitored as her abdomen was soft, temperature was normal and stable vital signs. Stomach decompression was started on the third post operative day when she developed gradual epigastric fullness.

On the Seventh post-operative day she started complaining of painful tender swelling at the right paraumbilical region. The plain abdominal films showed features of small bowel obstruction Fig. 1 & 2. Urea and electrolytes were corrected through intravenous infusion.

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* Consultant
** Senior Resident
*** Resident
Department of Surgery
Salmaniya Medical Complex
State of Bahrain

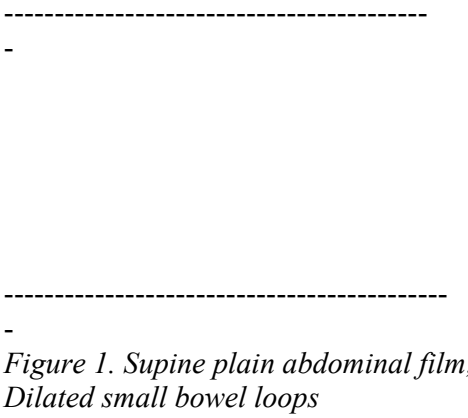

Figure 1. Supine plain abdominal film; Dilated small bowel loops

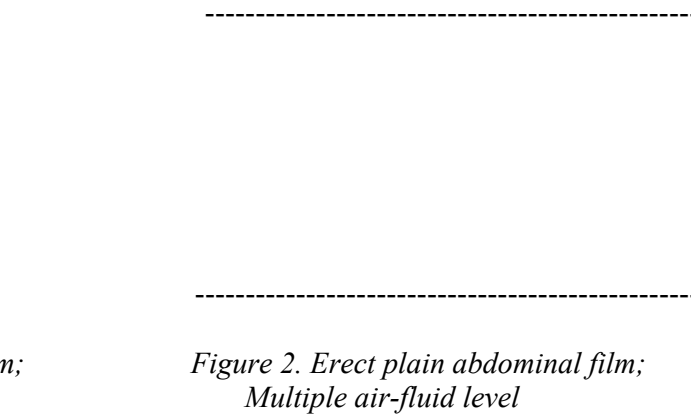

Figure 2. Erect plain abdominal film; Multiple air-fluid level

On the eighth post-operative day she underwent laparotomy for the snudl bowel obstruction. The intra-operative finding was herniation of distal jejunum through the infra-umbilical trocar site with viable oedematous bowel. The herniated bowel was released and the defect repaired Fig 3 & 4.

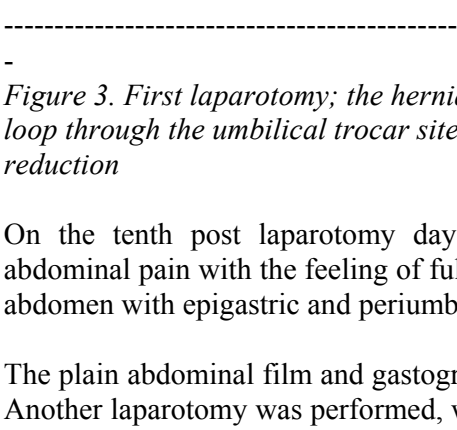

Figure 3. First laparotomy; the herniated jejunal loop through the umbilical trocar site before reduction

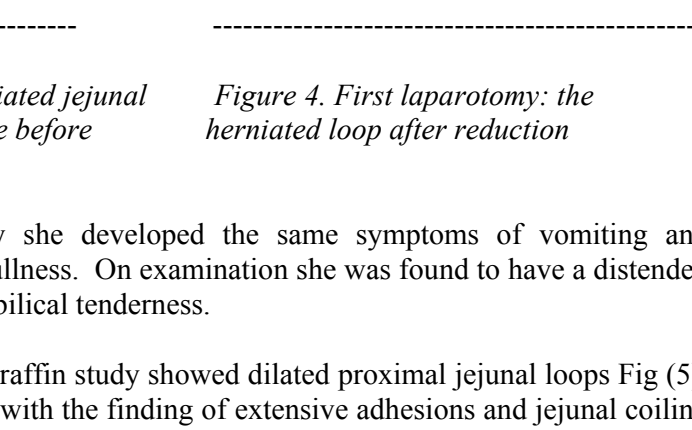

Figure 4. First laparotomy: the herniated loop after reduction

On the tenth post laparotomy day she developed the same symptoms of vomiting and abdominal pain with the feeling of fullness. On examination she was found to have a distended abdomen with epigastric and periumbilical tenderness.

The plain abdominal film and gastograffin study showed dilated proximal jejunal loops Fig (5). Another laparotomy was performed, with the finding of extensive adhesions and jejunal coiling around the herniated segment reduced in the first laparotomy. The adherent small bowel loop was resected [Fig (6)], and end-to-end anastomosis were performed. The patient did well postoperatively and was discharged in good health.

Figure 5. Gastrograffin study before the Second laparotomy

Figure 6. The resected adherent obstructed segment

DISCUSSION

Laparoscopic cholecystectomy has been routinely practiced in Salmaniya Medical Complex since 1992. Between November 1992 and January 1998, 1204 gall bladders were removed laparoscopically without closure of the fascial ports. Our case was the first patient to develop post operative bowel herniation through the laparoscopic site. Incisional hernias through the trocar sites has been increasingly reported[4,5]. Most of the reported cases occurred at the umbilical trocar site. It may be due to a lack of the surgeons experience who does not routinely perform fascial suturing at trocar sites[6]. No reports about incisional hernias developing at 5mm trocar site[7].

At our institution only one, out of 1204 patients who underwent laparoscopic cholecystectomy developed post operative bowel herniation through the trocar site. It represents only (0.08%) despite the non-routine suturing of the umbilical trocar site. We believe that the cause of herniation of the small bowel through the umbilical port, may be due to sudden deflation of the carbon dioxide or patient straining during recovery due to the endotracheal suction[8].

CONCLUSION

Bowel herniation through laparoscopic trocar sites is a rare complication. We suggest pulling the anterior abdominal wall up after deep endotracheal suction, gradual deflation of the pneumatic gas and avoid early post operative straining. Closure of the umbilical port is advisable to protect against such complications in the future.

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