

Small Bowel Obstruction after Laparoscopic Inguinal Hernioplasty: A Case Report

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1. Abstract

Inguinal hernia repair is a common operation performed by General Surgeons worldwide. The laparoscopic approaches such as TAPP have gained increasing acceptance among surgeons and many consider them as standard of care due to perioperative safety and excellent postoperative results. Knowledge of specific complications after minimally invasive inguinal hernia surgery is important for the successful management of these patients.

We report a case of 73 years old gentleman, who presented with intestinal obstruction in the early postoperative period of a trans abdominal pre peritoneal inguinal repair (TAPP) that was diagnosed and laparoscopic repair was done successfully.

2. Introduction

Laparoscopic inguinal hernioplasty is being performed more frequently. Several prospective and randomized studies [1-5] have shown, that it produces results that compare favourably to the open conventional approaches with the added and well-known advantages of this type of mini-invasive surgery. However, like any other surgical procedure, it has complications, some of which appear to be unique to this technical modality like intestinal obstruction related to TAPP.

The postoperative complication rate after laparoscopic techniques is rather low and includes seroma formation, visceral injury, chronic pain and testicular complications. As increasing numbers of TAPP procedures are being performed worldwide, uncommon complications become more frequent and need to be considered in the peri and postoperative management. Small bowel obstruction,

represents such a rare complication after TAPP and has been reported to occur in approximately 0.1–0.3% of cases [6].

In this article, we discuss obstruction of the small intestine in a patient as a complication after laparoscopic inguinal hernia repair TAPP, and the approach has been taken treating this complication.

3. Case Presentation

A 73 years old gentleman, known to have diabetes, hypertension, ischemic heart disease (CABG 2019), and obesity. The patient presented in our emergency department on 4th day post laparoscopic inguinal hernia repair (TAPP) with abdominal distention, abdominal pain, vomiting, constipation, started since 2nd day post operation. The patient had picture of acute kidney injury.

On examination the patient was fully conscious, vital sign were stable. Abdomen was distended, tympanic, generalised tenderness, with sluggish bowel sound. Scrotum was grossly enlarged, with a mass in right scrotum.

Labs showed picture of metabolic acidosis hyperkalaemia potassium 5.6 mmol/L, bicarb 13 mmol/L white blood cells $12.9 \times 10^3 / \mu\text{L}$, c-reactive protein 174 mg/L creatinine 3.25 mg/dl.

Patient was admitted to intensive care unit (ICU) and treatment started while preparing for surgery.

Patient was conscious, alert and oriented, good air entry bilaterally, urine output around 100ml per hour.

CT abdomen and pelvic showed extensive inflamed peritoneal wall with intra peritoneal fat stranding involved the bowel and bowel wall thickening.

Ct study done without any contrast considering the acute kidney injury (Figure 1).

Extensive abdominal wall haematoma and scrotal mass in the right side with bladder involved within the mass (Figure 2a-b).

Patient was shifted to operation room, pneumoperitoneum created, trocars inserted under vision. Laparoscopy showed 300 ml of free fluid, in right iliac fossa and flank, bowel adhesions and mass formed by omentum and terminal ileum causing obstruction with moderate dilatation of proximal loops. The mesh from previous surgery was inserted with an incomplete coverage of the defect without reducing the hernia sac and fixed with secure strap to bladder which forms lateral wall and roof of the hernia (Figure 3).

Urinary bladder was strangulated between the ring and the mesh where the mesh is fixed into it. Adhesiolysis done and terminal ileum and adhesions released. The mesh was eroding terminal ileum up to mucosa around 1 cm which was sutured with vycril. The mesh removed with difficulty due to the vicinity to anatomical

structures like inferior epigastric artery and fixation into bladder. There was inguinoscrotal direct hernia hu with edema and bladder involved and severely adherent to ring found. The urinary bladder was opened due to manipulation and weakness of its wall due to dissection from the mesh and removing strap from it , bladder repaired and methylene blue test done , ureteric catheter inserted and the second deep suture of bladder completed ,methylene blue test negative ,3D X-large mesh inserted and fixed with secure strap to muscle and ring.

Peritoneal fold closed using the huge sac of hernia which was inverted and left to reduce morbidity (risk of post operation bleeding).

Wash out and drain inserted evacuation of co2, 10 mm port closed skin closed.

Patient was shifted to ICU for post-operative care and stabilization and after being stable in 3 days shifted to the surgical ward then discharge on 7th post-surgical day.

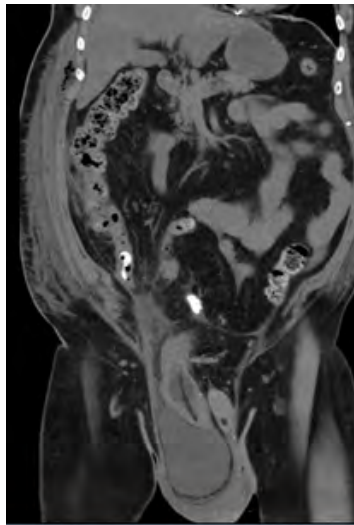


Figure 1: CT abdomen and pelvic extensive inflamed peritoneal wall with intra peritoneal fat stranding involved the bowel and bowel wall thickening.

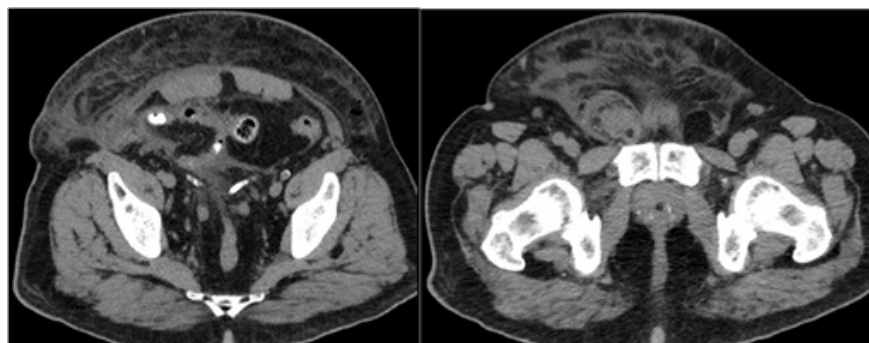


Figure 2(a, b): a: Extensive abdominal wall haematoma and scrotal mass in the right side. b: bladder involved within the mass.



Figure 3: laparoscopic photo intraperitoneal mesh from previous surgery was inserted with an incomplete coverage of the defect without reducing the hernia sac and fixed with secure strap to bladder.

4. Discussion

Postoperative complications are not exclusive of the laparoscopic approach. At least nine prospective studies [1- 5,7-11] have compared the frequency of complications between laparoscopic and open inguinal hernia repair. Overall, the complication index is higher for the open procedures (22% vs 18%), though there is not statistical significance [10]. Mike, et al., in their multicentric prospective and randomized study, also found a higher morbidity for the open techniques (20.3% vs 20.1%) even though in this report the use of extra trocars, rupture of instruments, and conversion from TAPP to TEP techniques were considered complications [12].

Fortunately, most of the complications following laparoscopic hernia repair are minor like, seromas, hematomas, pneumoscrotum, orchitis, etc. There are some serious complications of the operation like nerve entrapment and intestinal obstruction. The latter is rare and may be caused by herniation of an intestinal loop through a port incision (usually bigger than 5 mm) when the wound has not been closed correctly [13-15]. We found at least 15 cases reported in the literature of intestinal obstruction due to herniation of the intestines or adhesions at the site of peritoneal closure after a transabdominal preperitoneal inguinal repair (TAPP) [16-25]. In five of these patients reoperation was done laparoscopically, whereas in three it was done by laparotomy.

At the end, considering the laparoscopic method in re operating such a case more effective giving the chance to perform adhesiolysis and solving the internal herniation as well.

Nevertheless, when its necessary the laparotomy method still can be considered when diagnosis is confirmed.

5. Conclusion

However, the popularity of laparoscopic hernioplasty because of its advantages, we should keep in mind that it is still a surgical procedure and has its own type of complications, some of these complications considered rare but can be serious or even life threatening.

We see that the laparoscopic technique is the preferable choice of managing such complications if happened.

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