

SMALL BOWEL LAPAROSCOPIC RESECTION FOR STRANGULATED UMBILICAL HERNIA

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SMALL BOWEL LAPAROSCOPIC RESECTION FOR STRANGULATED UMBILICAL HERNIA (Abstract): Laparoscopic small bowel resection is a general accepted technique for small bowel tumors and diverticulum. However, the laparoscopic approach for intestinal resection for strangulated hernias is still controversial. This video presents the case of a 49 years old woman admitted for strangulated umbilical hernia. The patient was diagnosed with morbid obesity with a BMI of 51.3 kg/m². A laparoscopic approach was performed; the exploration confirmed the strangulated umbilical hernia containing small bowel. Kelotomy was necessary to reduce the small bowel. Given the ischemic injuries of the herniated small bowel segment, the resection with side-to-side stapled anastomosis was then performed. The hernia sac was also resected. The parietal defect was then closed by conventional non absorbable running suture. The postoperative course was uneventful and the patient was discharged in the 4th postoperative day. **CONCLUSION:** Even the laparoscopic small bowel resection for strangulated hernia is controversial the technique is feasible and safe in obese patients and could avoid operative site infection.

KEY WORDS: UMBILICAL HERNIA; LAPAROSCOPY; SMALL BOWEL LAPAROSCOPIC RESECTION; STAPLED ANASTOMOSIS

SHORT TITLE: Strangulated hernia; laparoscopic small bowel resection

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Video

BACKGROUND

Laparoscopic approach for small bowel obstruction is well known and is associated with reduce hospital stay and mortality rate [1]. In the same time the feasibility of laparoscopic small bowel resection for tumors and diverticulum are also demonstrated in various papers [2-4]. The laparoscopic approach also proved its feasibility for strangulated groin hernia [5].

However the place of laparoscopic approach for strangulated umbilical hernia is not well studied.

The aim of this video is to present a case of laparoscopic small bowel resection for strangulated umbilical hernia.

CASE PRESENTATION

A 49 years old obese woman was admitted for intense periumbilical pain. The weight was 138 kg for 164 cm, so a body mass index (BMI) of 51.3 kg/m². The physical exam revealed a painful, non reducible small periumbilical tumor.

The plain X-ray abdominal exam revealed no fluid-air levels and the

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ultrasound exam noted herniated adipose tissue.

The lab tests revealed leucocytosis ($11,500/\text{mm}^3$) and elevated C reactive protein (CRP) levels (41 mg/L).

A laparoscopic approach was proposed.

A 15 mm direct view type trocar was placed at the mid distance between xyphoid and umbilicus. The laparoscopic exploration revealed a strangulated umbilical hernia containing a round ligament and a small bowel segment. Three trocars were placed in the right abdominal quadrants.

Kelotomy was necessary to reduce the herniated small bowel segment and round ligament.

The small bowel presented persistent ischemic injuries. The mesentery was divided using bipolar grasper; then a stapled side-to-side anastomosis was performed. The small bowel segment was divided using an Endo GIA stapler.

The hernia sac resection as well as round ligament resection was performed.

An extensive abdominal irrigation was done and a suction drain was placed in Douglas pouch.

A small periumbilical incision was performed and the resected specimens were extracted using an endo-bag. The parietal defect was repaired by transversal double running non absorbable monofilament suture. The operative time was 40 minutes.

The postoperative course was uneventful and the patient was discharged in 4th postoperative day.

DISCUSSIONS

The laparoscopic approach for ventral proved its advantages to open approach in term of hospital stay, postoperative morbidity, and operative site and mesh infection and recurrence [6-8].

On the other hand the laparoscopic approach was extensively studied for small bowel obstruction [1,9,10] and allow a good evaluation for the "need for resection" [11].

However there are few data in the literature about the laparoscopic small bowel

resection for strangulated umbilical hernia. In fact an extensive search of PubMed and Google scholar revealed only one reference [12].

The laparoscopic bowel resection for strangulated umbilical hernia is apparently nonsense because the herniated intestinal bowel is already exteriorized in hernia sac and a resection is in theory, simple and feasible. Furthermore after a septic operative time, a hernia mesh repair is contra indicated. There are however references in the literature about a laparoscopic small bowel resection for strangulated groin hernia [13,14] and several reports about concomitant bariatric (sleeve and gastric bypass) and hernia mesh repair [15-17] and about laparoscopic cholecystectomy and hernia mesh repair [18].

However in obese patients there is a higher risk of severe surgical site infection after intestinal open surgery [19,20]. Much more the laparoscopic approach decreases by 70 to 80% the surgical site infection rate compared with open surgery across general abdominal surgical procedures [21]. From these reasons a laparoscopic approach was preferred in presented case; in the same time to extract the bulky resected specimen a periumbilical incision was performed and the parietal defect was closed by transversal suturing. An alternative repair technique is laparoscopic transparietal suture as in the case presented by Keshishian A. [12]. The mesh repair wasn't performed due to the high risk of severe parietal infection [22]. A biologic mesh is another alternative for hernia repair but wasn't available in our department [23].

CONCLUSION

Despite the controversial aspects already discussed the laparoscopic small bowel resection for strangulated umbilical hernia is a feasible technique for obese patients and is associated with rapid postoperative recovery.

CONFLICT OF INTERESTS

None to declare.

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