Vejovis Journal

Laparoscopic Stapled Sublay Repair: A Minimally Invasive Technique for Diastasis Recti and Ventral Hernia Repair is gaining popularity in the Mediterreneal area. Report of our first case.

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Abstract

Introduction: Minimally invasive techniques for diastasis recti and ventral hernia repair achieve the benefits and minimize the limitations of the open Rives-Stoppa sublay mesh repair. The principles of a retromuscular repair decrease recurrence, increase functionality, exclude mesh from the viscera, limit infection and wound complications. The laparoscopic extraperitoneal sublay mesh repair technique using an endoscopic stapler facilitate re-approximation of the linea alba and creation of the retromuscular space, and allow the apposition of a prosthetic mesh.

Materials and methods: We report our first case of laparoscopic stapled sublay repair in a 30y.o. lady with a 4cm sovraumbilical ventral hernia associated with diastasis of recti abdominis. This technique combines Rives-Stoppa principles and minimally invasive access using a surgical stapler to plicate the posterior sheaths of the recti abdominis.

Intraoperative and perioperative complications, early recurrence, pain, and narcotic usage were measured.

Results: There were no significant intraoperative complications nor conversion to open surgery. The patient was discharged on postoperative day 2. There were no early postoperative infections or recurrences. The patient required postoperative analgesics in the early period and was feeling well at a week follow up.

Conclusions: Laparoscopic extraperitoneal stapled sublay mesh repair seems a safe and effective technique for the treatment of medium- to large-sized ventral and incisional hernias. Further studies and

follow-up will be necessary to evaluate long-term results.

Introduction

Diastasis recti is a common condition where the rectus abdominis muscles are separated by a distance or 2 cm or more [1, 9]. There is no hernia defect and the transversalis fascia is intact. It may occurs after pregnancy, but obesity or previous abdominal surgeries can also be the cause [1, 2].

Patients may experience non-specific abdominal symptoms and some midline discomfort, however the diastasis recti has estethic implications[2, 3]. Other midline abdominal wall defects are often associated for which surgical intervention is warranted.

Several procedures are indicated for the treatment of diastasis recti with or without a midline abdominal wall defect. Minimally invasive techniques for diastasis recti and ventral hernia repair achieve the benefits and minimize the limitations of the open Rives-Stoppa sublay mesh repair.

The aim of this study was to evaluate the intraoperative and perioperative complications, early recurrence, pain, and narcotic use.

Methods

We report our first case of laparoscopic stapled sublay repair in a 30 y.o. lady with a 4 cm sovraumbilical ventral hernia associated with diastasis of recti abdominis. The patient had a past surgical history significant for open umbilical hernia repair with no mesh. The preoperative workup included a CT scan of the abdomen that showed a 4 cm sovraumbilical ventral hernia associated with 5 cm diastasis of recti abdominis.

Surgical technique: The patient was placed in a supine position, with both legs flexed 30 degree. Preoperative antibiotics were administered, and general endotracheal anesthesia was induced. A Foley catheter was placed. The abdomen is prepped and draped in the usual sterile fashion. An iodine surgical drape was placed.

We performed the elective surgical procedure laparoscopically. We gained access to the peritoneal cavity with an open technique from a midline sovrapubic 12mm trocar. Pneumoperitoneum was induced and abdomen insuffleated with a

14 mmHg pressure; a 30 degree camera was inserted and the abdominal cavity inspected. We inserted two additional suprapubic trocars, 12mm and 5mm, on the left side, under direct vision. The midline defect and/or associated diastasis recti was visualized and adhesions were released. Redundant adipose tissue was dissected from the posterior layer of the anterior abdominal wall until the defect was exposed and the falciform ligament was dissected.

The peritoneum and posterior rectus sheath were opened just above the arcuate line with two small, trasverse incisions and a blunt dissection with a laparoscopic kittner dissector created two tunneled cavities. The two jaws of an endo-stapler were inserted in the retromuscular plane. The abdominal pressure was decreased at 6 mmHg. The posterior sheets of the recti muscles were sutured with two or threee fires (fig.1) The cavity was visualized and a tailored rectangular absorbable mesh was placed in this retromuscular space above the posterior sheet (Fig.2). The abdomen is re-insufflated with carbon dioxide up to a pressure of 14 mmHg.

The initial opening of the posterior sheath of the rectus abdominis muscles was closed with absorbable intracorporeal sutures.

Results:

There were no significant intraoperative complications nor conversion to open surgery. The patient was discharged on postoperative day 2. There were no early postoperative infections or recurrences. The patient required postoperative analgesics in the early period and was feeling well at a week follow up visit.

Discussion:

The Rives–Stoppa technique is the gold standard of Abdominal Wall Repair, with lower risk of long-term recurrence and major complications[7].

The plication of the midline using a stapler is a great advantage because it is a minimally invasive procedure that determines the closure of the fascia with a tension equally distributed; it's important to fully expose the defect and to avoid any residue of adipose tissue between the jaws of the stapler. The laparoscopic technique allows visual inspection and removal of the preperitoneal adipose tissue, that might

be included into the suture line and the diagnosis of other abdominal wall defect that might be associated. We used an absorbable mesh and did not fix it. The mesh is held in place by intra-abdominal pressure, according to the La Place principle [8].

Conclusions:

Laparoscopic extraperitoneal stapled sublay mesh repair seems a safe and effective technique for the treatment of midline medium- to large-sized ventral, incisional hernias and diastasi recti. Further studies and follow-up will be necessary to evaluate long-term results.

Conflict of Interests

The authors' declare that there are no conflicts of interests.

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Fig.1

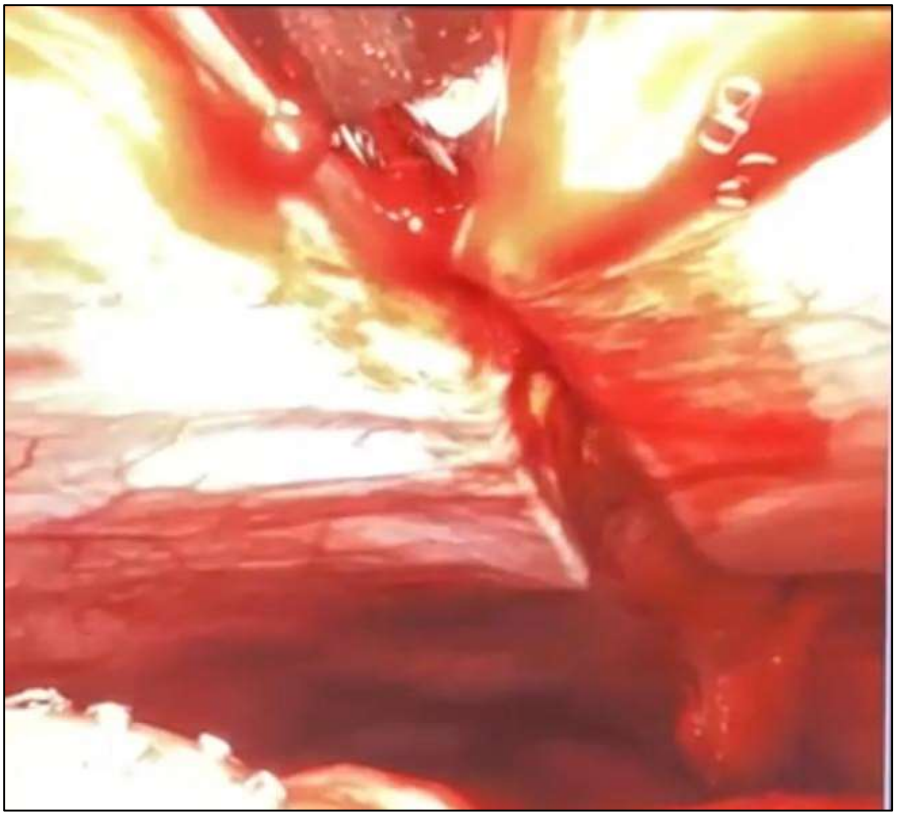
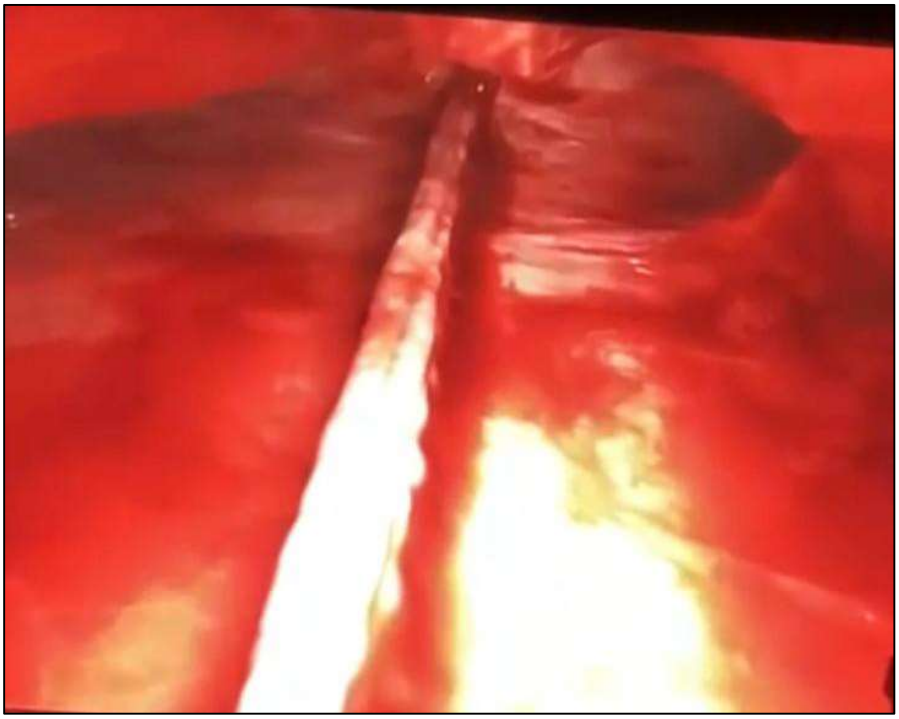


Fig.2



The absorbable mesh is not shown

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