



Retrospective Study of short-term outcomes of Ventral Abdominal Wall Hernia Patients Operate by Extended Total Extraperitoneal Mesh Repair

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Abstract

Background: The present study was conducted for assessing short-term outcomes of Ventral Abdominal Wall Hernia Patients Operate by Extended Total Extraperitoneal Mesh Repair.

Materials & methods: A total of 50 patients were enrolled. To permit instrumentation without resistance from the pelvis and thighs, the patient was positioned supine with arms at the side and stretched at the hips. Surgeons with the necessary training and experience performed each procedure. A decreased insufflation pressure allowed the flaw to be sealed. Barbed absorbable suture was used to seal the posterior rectus sheath. The defect size and the amount of space produced determined the mesh size. From one linea semilunaris to the next and from the epigastrium to the pubis, the mesh was laid flat. After the procedure, we permitted clear liquids for six to eight hours, and oral feedings the next morning. Typically, drains were not provided. In the first five days, analgesics were regularly administered. After the surgery, patients were typically discharged two to three days later. SPSS software was used to record and interpret each outcome.

Results: Mean operative time was 189.4 minutes while mean defect width was 6.94 cm. mean defect area was 47.12 cm² while mean mesh size was 568.4 cm². Seroma formation and hematoma was seen in 2 percent of the patients each. Linea alba dehiscence and recurrence was seen in 2 percent of the patients each. Postoperative pain was seen in 4 percent of the patients.

Conclusion: Despite all its limitations, Extended Total Extraperitoneal Mesh Repair is an attractive option for treating ventral abdominal hernias.

Key words: Abdominal wall, Hernia, Extraperitoneal, Mesh repair

Introduction

Ventral hernias of the abdomen are defined as a non-inguinal, nonhiatal defect in the fascia of the abdominal wall. Annually, there are about 350,000 ventral hernia operations. The repair of these abdominal wall defects is a common surgery performed by general surgeons. The surgical treatment of large abdominal wall defects, be they primary or postsurgical, gives rise to technical problems that are not always easy to solve.^{1, 2} They represent one of the most common reasons for emergent surgery performed in patients over 50 years old. In fact, they are the second most common indication for surgery after acute appendicitis in Europe and the United States. The complexity and difficulty of repair of these defects accounts for the substantial number of surgical methods that exist in open surgery, high postoperative morbidity, and, frequently, the recurrence of the hernia (14%-50%) with conventional surgery.^{3,4}

Extended totally extraperitoneal repair (eTEP) is a novel technique that was first introduced by Jorge Daes in 2012 to address difficult inguinal hernias. The principle is to create a larger space than what is done in TEP to tackle large groin hernias. Some surgeons have extended the indication to ventral hernias with the purpose to place the mesh in the retromuscular space, as suggested by Rives and Stoppa (RS).⁵⁻⁷ Hence; the present study was conducted for assessing short-term outcomes of Ventral Abdominal Wall Hernia Patients Operate by Extended Total Extraperitoneal Mesh Repair.

Materials & methods

The present study was conducted for assessing short-term outcomes of Ventral Abdominal Wall Hernia Patients Operate by Extended Total Extraperitoneal Mesh Repair. Only those patients were enrolled among which had hernias with a defect more than 4 cm for eTEP. Exclusion criteria for the present study included subjects with defect width of more than 12 cm. A total of 50 patients were enrolled. To permit instrumentation without resistance from the pelvis and thighs, the patient was positioned supine with arms at the side and stretched at the hips. Surgeons with the necessary training and experience performed each procedure. A decreased insufflation pressure allowed the flaw to be sealed. Barbed absorbable suture was used to seal the posterior rectus sheath. The defect size and the amount of space produced

determined the mesh size. From one linea semilunaris to the next and from the epigastrium to the pubis, the mesh was laid flat. After the procedure, we permitted clear liquids for six to eight hours, and oral feedings the next morning. Typically, drains were not provided. In the first five days, analgesics were regularly administered. After the surgery, patients were typically discharged two to three days later. SPSS software was used to record and interpret each outcome.

Results

Mean age of the patients was 55.3 years. Mean BMI of the patients was 28.13 Kg/m². 76 percent of the patients were females. 12 percent and 20 percent of the patients were smokers and diabetics respectively. Mean operative time was 189.4 minutes while mean defect width was 6.94 cm. mean defect area was 47.12 cm² while mean mesh size was 568.4 cm². Seroma formation and hematoma was seen in 2 percent of the patients each. Linea alba dehiscence and recurrence was seen in 2 percent of the patients each. Postoperative pain was seen in 4 percent of the patients.

Table 1: Demographic variables

Variables		Number	Percentage
Age group (years)	Less than 50	22	44
	More than 50	28	56
Mean age (years)		55.3	
Mean BMI (Kg/m ²)		28.13	
Gender	Males	12	24
	Females	38	76
Smokers		6	12
Diabetics		10	20

Table 2: Perioperative details

Variable	Value
Mean operative time (mins)	189.4
Mean defect width (cm)	6.94
Mean defect area (cm ²)	47.12
Mean Mesh size (cm ²)	568.4

Table 3: Complications

Complications	Number	Percentage
Seroma	1	2
Hematoma	1	2
Linea alba dehiscence	1	2
Recurrence	1	2
Pain	2	4

Discussion

An abdominal wall hernia is an abnormal protrusion of a peritoneal-lined sac through the musculo-aponeurotic covering of the abdomen. The most common variety is groin hernias, of which inguinal hernias (direct and indirect) are far more common than femoral hernias. Hernias of the abdominal wall are quite common, having a prevalence of 1.7% for all ages and 4% for those older than 45 years. Hernias of the inguinal region account for 75% of abdominal wall hernias, with a lifetime chance of 27% in males and 3% in females. More than 20 million hernias are estimated to be repaired all over the world every year. The problem with developing countries, especially in their rural population, is medical ignorance, cost restraints, and social inhibitions. Delayed presentations add to postoperative morbidity and mortality.^{6- 10}Hence; the present study was conducted for assessing short-term outcomes of Ventral Abdominal Wall Hernia Patients Operate by Extended Total Extraperitoneal Mesh Repair.

Mean age of the patients was 55.3 years. Mean BMI of the patients was 28.13 Kg/m². 76 percent of the patients were females. 12 percent and 20 percent of the patients were smokers and diabetics respectively. Mean operative time was 189.4 minutes while mean defect width was 6.94 cm. mean defect area was 47.12 cm² while mean mesh size was 568.4 cm². Our results were in concordance with the results obtained by previous authors who also reported similar findings. In a study conducted by Baig et al, authors analysed the data of 21 patients who underwent an extended Totally Extraperitoneal approach (eTEP) procedure with a minimum follow-up of 2 months. Their data were analysed for operative details, intra-operative and post-operative complications. For a total of 21 patients, we have recorded a total of two surgical site occurrences (1 seroma and 1 linea alba dehiscence) and one recurrence.

One patient had chronic pain. There was no surgical site infection. Judging from our short-term results, they suggested that the eTEP technique can be adapted in centres with advanced laparoscopic skills with the careful patient selection.¹⁰

Seroma formation and hematoma was seen in 2 percent of the patients each. Linea alba dehiscence and recurrence was seen in 2 percent of the patients each. Postoperative pain was seen in 4 percent of the patients. In a similar study conducted by Binggen Li, authors developed an endoscopic totally extraperitoneal approach (TEA) to treat primary midline ventral hernias, including umbilical and epigastric hernias, in which for mesh placement, an anatomical space is developed between the peritoneum and the posterior rectus sheath in the ventral part of the abdominal wall (preperitoneal space). All operations were successfully performed without conversion to open surgery. The mean operation time was 103.3 min (range 85–145 min). Patient-reported postoperative pain was qualitatively mild with a mean pain visual analogue scale score of 1.9 on postoperative day 1. The average hospital stay was 1.9 days (range 1–3 days). Three patients developed minor complications and were treated with no long-term adverse effects. Readmissions within 30 days or hernia recurrences were not observed with a mean follow-up period of 18 months (range 10–27 months). In selected cases, TEA is a safe and feasible minimally invasive alternative in treating primary ventral hernias.¹¹

Conclusion

Despite all its limitations, Extended Total Extraperitoneal Mesh Repair is an attractive option for treating ventral abdominal hernias.

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