Laparoscopic Re-Do Repairs of Recurrent Inguinal Hernias Using Double-Mesh Technique

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ABSTRACT

Described is a “double mesh” technique for performing laparoscopic re-do repairs of inguinal hernias. When doing this procedure, it is virtually impossible to take down the peritoneum due to incorporation of the old mesh. This technique is therefore done by using a simple onlay of polypropylene mesh, covering the hernia defect and ensuring that sufficient staples are placed into the iliopubic tract. Proper recognition of neuroanatomy is essential. In order to prevent intestinal adhesions, a second patch of gortex is secured to the polypropylene.

Key Words: Laparoscopy, Recurrent inguinal hernia.

INTRODUCTION

Laparoscopic inguinal herniorrhaphy has gained wide popularity with many surgeons and patients. Early resumption of normal activities and less postoperative pain are two of its main benefits. Despite the high satisfaction rate, risks are inherent to laparoscopic herniorrhaphy just as with standard open repairs. Nerve entrapments, hematomas, and recurrences are all well-known complications that may be encountered. This paper deals with recurrences after laparoscopic herniorrhaphies. In our experience, patient satisfaction with laparoscopic repair is so high that those with recurrences are requesting that re-do repairs also be done laparoscopically. This has presented new problems, which have led to the development of a variation of the standard herniorrhaphy utilizing a “double-layer” repair of polypropylene and gortex.

The recurrence rate of laparoscopic inguinal herniorrhaphies in our practice is less than 4 percent, which is higher than our recurrence rate of under 1.5 percent for standard open herniorrhaphies. Included in these figures are recurrences encountered in the early years of laparoscopic herniorrhaphy. This may be a factor in the higher overall recurrence rate; nonetheless, patients now do occasionally experience recurrences (3% to 10% in recent studies). Despite the development of recurrences, we have found that most patients request the re-do repair be done laparoscopically.

The vast majority of recurrences are the result of cephalad migration of the polypropylene, exposing the hernia defect (Figure 1). It is felt that this is due to inadequate fixation of the graft to the iliopubic tract. Many surgeons have encountered meralgia paresthetica or scrotal pain due to inadvertent entrapment of the anterior branch of the lateral femoral cutaneous nerve or the genitofemoral nerve, which has led to inadequate application of staples in this area (Figure 2). The evolution and better understanding of the anatomy of the inguinal area has since taught us to better identify these structures and to avoid them when placing staples at the iliopubic tract.

TECHNIQUE

When doing re-do laparoscopic herniorrhaphies it is virtually impossible to take down the peritoneum as in the standard intra-abdominal approach or to attempt an
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extraperitoneal approach. This is due to the intimate incorporation of the mesh with the surrounding tissue. This also makes it impossible to reperitonealize the area so as to reduce the risk of postoperative adhesions.

This technique for laparoscopic re-do repairs is done intra-abdominally using the standard three-trocar approach. No attempt is made to remove the incorporated mesh from the first surgery. The peritoneum is opened only inferiorly at the iliopubic tract. This is done in order to identify the lateral femoral cutaneous and the genitofemoral nerves. This is a critical part of the operation. Since the mesh has usually migrated cephalad, there is minimal scarring in this area. Other major structures in the "Triangle of Doom" are easily identified without extensive dissection.

Once the inferior neurovascular structures are identified, a 3 x 5 inch piece of polypropylene mesh is secured to the iliopubic tract and to the surrounding fascia. This can also be attached to the old mesh at the superior and medial borders if it helps with positioning. It is felt that polypropylene (or similar materials) produces the best ingrowth, leading to better long-term results. In order to decrease bowel adhesions, a 3 x 5 inch piece of gortex is then secured to the new polypropylene with a stapling device.

DISCUSSION

Since 1992, seven patients with recurrences of laparoscopically repaired inguinal hernias have undergone laparoscopic re-do repairs. So far there have been no recurrences (four years being the longest time from re-do repair). There have been no incidences of postoperative neuralgias nor of pathologic adhesions or bowel obstructions, and no patient had to be converted to an open pro-

procedure. The only reportable postoperative complication was a minor scrotal hematoma in one patient.

SUMMARY

The advantages of laparoscopic inguinal herniorrhaphies is well documented. A small percentage of patients undergoing laparoscopic repair will experience recurrences. This technique affords the same benefits as an initial laparoscopic herniorrhaphy with excellent results.

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