

## Laparoscopic Mesh Repair of Parastomal Hernia

The videos associated with this chapter are listed in the Video Contents and can be found on the accompanying DVDs and on *Expertconsult.com*. 

The incidence of parastomal hernias after ileostomy and colostomy can be extremely high, 36% and 48%, respectively. Most occurrences are seen within the first 2 years after creation of the stoma. Several randomized trials have demonstrated the superiority of laparoscopic ventral hernia repair over the open approach; in contrast, although parastomal hernia is an incisional type of hernia, there is no consensus on the best method for this herniorrhaphy. The options for the surgical management of parastomal hernia include primary fascial repair, stomal relocation, and placement of varying types and shapes of mesh.

Traditional open parastomal hernia repair appears to have unacceptable rates of complications and hernia recurrence. Primary fascial repair has a recurrence rate of 46% to 76% at the ostomy site. Although stomal relocation results in a lower rate of hernia recurrence at the previous ostomy site than primary repair, it can be associated with an incisional hernia at the laparotomy site and a parastomal hernia at the new stoma site.

Over the past few years, several authors have reported their experience with laparoscopic parastomal hernia repair. Recently, laparoscopic parastomal hernia repair with synthetic mesh has also been described. The technique may result in lower rates of hernia recurrence; it appears to be safe, and the incidence of mesh erosion is low, although further studies are required. Advantages over the open techniques include avoidance of stoma relocation, reduction in postoperative pain, and decreased wound complications and other complications inherent to laparotomy.

### OPERATIVE INDICATIONS

Asymptomatic patients may be managed conservatively; however, as many as 30% will require a surgical correction. The primary indication is the same as for other incisional hernias: pain, obstruction, bowel incarceration or strangulation, and persistent symptoms (i.e., difficulty with ostomy appliances, leakage, or skin maceration). Because there is a significant risk for recurrence, the symptoms must be substantial so that benefits outweigh the risks.

In this chapter, our technique is illustrated in the case of a permanent ileostomy parastomal hernia. The patient had undergone a laparoscopic total proctocolectomy with end ileostomy for ulcerative colitis 15 years earlier, performed by the senior author (CTF). The patient was experiencing intermittent bowel

obstructions, with abdominal pain interfering with his everyday life. Our operative technique incorporates those principles applied in laparoscopic ventral hernia repair as well as in parasophageal hernia repair with mesh, as described in the *Atlas of Minimally Invasive Surgery*, 2009 (see Suggested Readings at the end of this chapter).

### PREOPERATIVE EVALUATION

Patients should undergo the necessary medical evaluation to determine fitness for general anesthesia. The history and physical examination should focus on all previous operations, and if possible all medical records should be obtained. The location, size, and extent of the parastomal hernia should be well documented, in addition to any incisional hernias present, to formulate an operative plan. It is imperative to obtain a computed tomography scan on all patients to determine size, location, and presence of any undiagnosed hernias. A standard bowel prep consisting of polyethylene glycol and oral antibiotics would be a prudent practice. This is justified by the potential risks for inadvertent enterotomy secondary to laparoscopic enterolysis often necessary during these operations.

### PATIENT POSITIONING AND PLACEMENT OF TROCARS

The patient is placed supine on the table with both arms secured at the patient's side. Appropriate safety measures including belts or straps are placed to secure the patient for needed rotational changes. A urinary bladder catheter is placed for decompression to avoid inadvertent injury to the bladder.

The surgeon and assistant typically stand on the side opposite the hernia, facing the monitor. There is no consensus in the literature regarding establishment of pneumoperitoneum in patients with a stomal hernia or ventral hernia. Instead of using the blind insertion of the Veress needle in a previously operated abdomen, it would be advisable to use an optical bladeless trocar well away from the previous surgical site to gain access into the abdominal cavity. Another option includes the use of an open Hasson technique. Two additional 10-mm trocars are usually placed on the contralateral side of the hernia. Extra trocars may be placed as needed.