

CONSTANTINE T. FRANTZIDES, JOHN G. ZOGRAFAKIS, AND
MARK A. CARLSON

Laparoscopic Transabdominal Preperitoneal Inguinal Hernia Repair

A substantial advantage may be gained by using the preperitoneal space during the repair of inguinal hernia. The tissue planes often are relatively clean, the relevant anatomy is easy to appreciate, and the mesh may be applied posterior to the defect, which has a theoretical mechanical advantage over anterior placement. The laparoscopic approach to groin hernia repair is able to utilize these advantages. To date, laparoscopic transabdominal preperitoneal (TAPP) and total extraperitoneal (TEP) inguinal hernia repair both have been demonstrated to be acceptable methods to treat groin hernia. Some controversy remains regarding the superiority of one technique over the other, whether laparoscopic repair is better than open repair, in which patient a particular procedure is indicated, and so on. Because the data on these issues currently are not conclusive, this chapter will not focus on these debates, but instead provide an overview for the technique of the laparoscopic TAPP repair.

OPERATIVE INDICATIONS

Traditionally the mere presence of an inguinal hernia was an indication for repair in the patient who could tolerate the procedure, regardless of whether the patient had symptoms or not. An inguinal hernia can lead to life-threatening complications; the rate at which this occurs, however, is controversial, and whether this risk justifies routine inguinal hernia repair in an asymptomatic patient has been the topic of debate. Certainly a patient who has a symptomatic inguinal hernia should undergo an elective repair. In actuality, there is a continuous spectrum of symptomatology in these patients, from very little to severe. Most general surgeons do not actually see “asymptomatic” groin hernias, because they do not do primary care. The typical decision the surgeon needs to make is whether the degree of symptoms that a particular patient has from a groin hernia will justify repair of that hernia. Because most of these patients have been referred to the surgeon for repair of their groin hernia, a decision in favor of repair typically is made. The practice of the authors is to carefully question each patient to determine how much of a problem is caused by the groin hernia and then to make an individualized decision.

If a groin hernia repair is chosen, then a further decision the surgeon typically needs to make is the operative approach: open or laparoscopic, TAPP or TEP, and so forth. Currently, the indications for each procedure are relative, and the deciding factors will derive from patient and surgeon preference. In addition

to the advantages of the laparoscopic approach described earlier, the specific advantages of the TAPP procedure include the ability to instantly scout for an inguinal hernia on both sides. If bilateral hernias are found, then both may be repaired. In addition, the working space with TAPP is much larger than it is with TEP, and the surgeon also may perform a diagnostic laparoscopy if other questions of intra-abdominal disease exist. TAPP also may be easier to perform than TEP in the patient who has had a previous violation of the preperitoneal space (e.g., secondary to a retropubic extraperitoneal prostatectomy). The contraindications to a TAPP repair include the inability to tolerate a general anesthetic, the presence of infection, and moderate coagulopathy.

PREOPERATIVE EVALUATION, PREPARATION, AND POSITIONING

The preoperative TAPP patient should undergo the necessary evaluation in preparation for a general anesthetic. In Western societies, each patient over age 50 should have screening for colorectal cancer prior to the hernia repair, as recommended by the American Cancer Society. Aspirin and other nonsteroidal anti-inflammatory drugs should be discontinued for 1 week prior to surgery. Shaving of the operative field, if done at all, should only be performed immediately prior to the procedure (i.e., not the evening before). All patients should receive a dose of a first-generation cephalosporin (or equivalent antibiotic to cover skin organisms) 30 minutes prior to skin incision.

The patient is placed supine on the operating room table, and general anesthetic is administered. We prefer to use an alcohol-based surgical scrub for skin preparation. Both upper extremities are tucked, taking care to pad appropriately the elbows and any other exposed bony prominences. The patient should be secured to the table using a lower body and upper body padded strap. If the patient voids prior to the procedure, then Foley catheterization is not routinely necessary. If the surgeon anticipates that the procedure may be prolonged, then Foley placement would be helpful to keep the bladder decompressed and out of the operative field. A video monitor is placed at the foot of the operating room table. The surgeon may stand on the same side of the hernia or the contralateral side (depending on the surgeon's preference or dominant hand), and the camera operator stands opposite the surgeon.