

Laparoscopic Ventral Hernia Repair

Similar to cholecystectomy, ventral hernia repair is one of the most common procedures performed by general surgeons. Perhaps the abundance of ventral herniorrhaphy is a sad reflection on our ability to obtain secure and durable closure of the long abdominal incision (and, incidentally, also could be a strong pitch for minimally invasive surgery). The literature on ventral hernia repair contains a large number of technical descriptions on how to fix the abdominal wall defect. There also is a large number of publications describing the experience of a single surgeon/institution in which the recurrence rate (the primary outcome measure of ventral herniorrhaphy) is astoundingly low, in the range of 0% to 1%. Yet it has been documented that the recurrence rate after ventral herniorrhaphy for all operators is much higher, in the range of 10% to 30% (and that is with the use of mesh). This suggests that, perhaps as much or more than any other common general surgical procedure, the long-term outcome of ventral hernia repair is dependent on operative technique.

One technical aspect of ventral hernia repair that has received increasing emphasis is the importance of utilizing mesh. Ventral herniorrhaphy with mesh has been shown in both controlled and uncontrolled settings to have a lower recurrence rate than repair without mesh. This statement, however, is hopelessly broad; it makes no mention of important technical details, such as what type of mesh to use, where the mesh should be placed in relation to musculoaponeurotic layers, how large the mesh should be in relation to the defect, how the mesh should be secured, and so on. We believe that within these technical details resides the source of the abovementioned variability in recurrence.

Currently there is a smoldering controversy about the superiority of laparoscopic versus open ventral hernia repair. Without the benefit of an adequate clinical trial, this issue is difficult to resolve. Not surprisingly, we believe in the laparoscopic approach, and feel somewhat justified in taking this position by the volume of uncontrolled data that support this approach. It would be irresponsible, however, to imply that open hernia repair is inferior or below the fabled “standard of care.”

In using the term “ventral hernia,” we refer to all defects of the anterior abdominal wall, whether they involve a previous surgical incision, a primary umbilical defect, a recurrent ventral hernia of any type, and so forth. In line with our other contributions to this atlas, we will make no claim of possessing the “best” or “purest” technique, because very little of what we will advocate has been tested in a controlled trial. We simply will describe in detail

what has worked well for us; moreover, as there is more than one author of this chapter, it will become apparent that this chapter contains more than one technique of ventral herniorrhaphy.

OPERATIVE INDICATIONS

The primary indication to repair a ventral abdominal hernia is the presence of symptoms, which include pain, pressure, cosmesis, partial or complete obstruction, and strangulation. An asymptomatic ventral hernia typically does not need to be repaired, especially in an older, frailer patient. A common predicament that arises in a symptomatic patient, however, is the presence of comorbidities that can be a relative contraindication to repair. For example, should a 48-year-old man with a body mass index (BMI) of 51 and a mildly symptomatic incisional hernia from a previous colon resection undergo a minimally invasive ventral herniorrhaphy? Or would such a patient be better suited to have medical/surgical treatment of his morbid obesity? This comorbidity likely was the main predisposing factor for his incisional hernia and, left untreated, would put him at an elevated risk for perioperative complication and recurrence after a hernia repair. If such a patient were experiencing disabling symptoms or developed a severe complication (e.g., strangulation), then certainly early/immediate operative intervention would be indicated. Nevertheless, it is our preference in the mildly symptomatic patient to first address a comorbidity, such as morbid obesity, prior to proceeding with a minimally invasive ventral hernia repair. In addition, there was some initial concern about utilizing the laparoscopic approach for a “giant” incisional hernia (Fig. 29-1); however, many authors have demonstrated that laparoscopic technique for this indication is feasible (and even preferable).

PREOPERATIVE EVALUATION

The goals of the preoperative evaluation for minimally invasive ventral hernia repair may be organized as follows: (1) to assess by physical examination the presence, location, size, and extent of the ventral hernia; (2) to determine whether the patient’s symptoms are severe enough with respect to associated comorbidities such that a herniorrhaphy is justified; (3) to identify and characterize any previous abdominal operations; and (4) to make an operative plan. Routine testing should include blood chemistries, blood count,