Mesh Repair of Inguinal Hernia

102

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Indications

Inadequate fascia for autogenous tissue repair of direct inguinal hernia.

Recurrent inguinal hernia repair. As discussed in Chap. 104, mesh is frequently used when a recurrent inguinal hernia is approached through the groin.

Prosthetic mesh repairs are used by some surgeons for virtually all inguinal hernias. Advocates of the repair shown here in a modified form cite speed, simplicity, and minimal dissection as major advantages to the surgeon; decreased pain and immediate return to normal activities are advantages to the patient. Current data support the use of a mesh repair for virtually all elective primary herniorrhaphies.

Preoperative Preparation

See Chap. 100.

Perioperative antibiotics.

Pitfalls and Danger Points

Failure to identify, reduce, and repair all hernias. A missed indirect hernial sac is a common cause of recurrence (see Chap. 104).

Failure to secure the mesh adequately. Mesh can curl or migrate. When this happens it may fail to produce the desired effect or may be palpable in the subcutaneous tissues of a slender patient.

Infection.

Operative Strategy

This repair is performed through a short incision with minimal dissection. Direct and indirect sacs must be identified and reduced. Several kinds of mesh are available. This chapter describes the use of a preformed plug (PerFix, Davol Corporation) that is used to keep the hernia reduced as a kind of "internal truss." The plug is held in place by the edges of the fascial defect. Most indirect sacs are simply inverted, and the internal ring holds the plug in place. Direct hernial sacs are circumferentially incised to create the fascial ring that anchors the plug. The use of this plug is optional, and many surgeons simply reduce all hernias and place an onlay patch.

When a plug is used, it must be reinforced by an onlay patch. The procedure may be done under local or regional anesthesia.

Documentation Basics

- Findings
- Presence of incarceration
- Presence of strangulation
- Type of mesh used and exact details of placement and fixation

Operative Technique

Incision

Center a small skin line or nearly transverse incision over the medial third of the inguinal ligament and external inguinal ring (see Fig. 100.1a).

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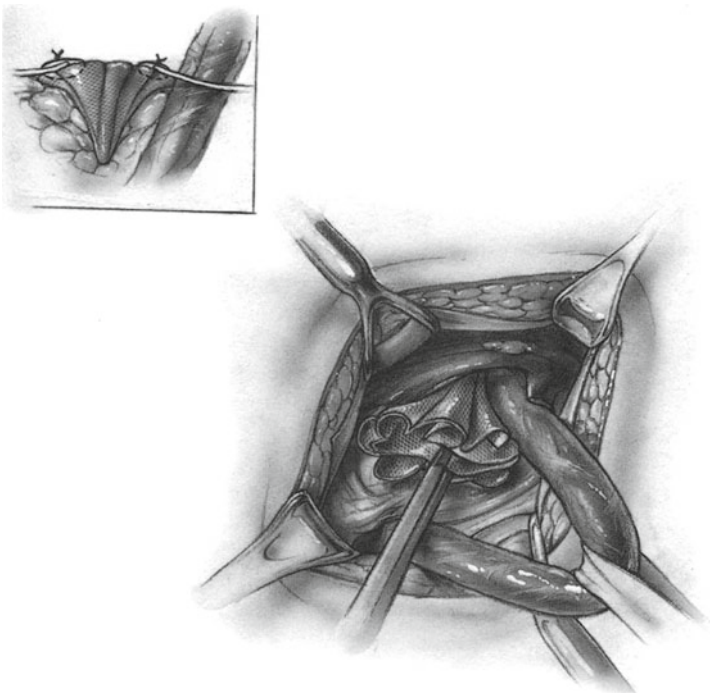

Fig. 102.1

Dissection and Identification of Direct and Indirect Sacs

The groin structures are exposed and the external oblique aponeurosis is identified as described in earlier chapters. Incise the external oblique aponeurosis in the direction of its fibers, preserving the ilioinguinal nerve (see Fig. 100.3). Encircle the cord and its posterior mesentery (which contains the genitofemoral nerve) (see Fig. 100.5). Perform just enough dissection to encircle the cord. Do not divide the cremaster muscle. Simply incise it in the direction of its fibers to allow careful inspection of the cord structures (see Fig. 100.4).

An indirect sac, if present, is found anteromedial to the cord structures. Trace the cord structures back to the internal ring, with the cord on traction to ensure that the leading edge of any indirect sac is seen. Visualization of the peritoneal lappet, a crescentic thickening of normal peritoneum created by traction on the cord, is positive proof that adequate dissection had been performed.

If an indirect hernia sac is found, separate it from the cord structures all the way to the internal ring. This high dissection allows the sac to be simply inverted into the peritoneum.

Assess the strength of the floor of the inguinal canal by palpation. If a direct hernial defect is present, circumferentially

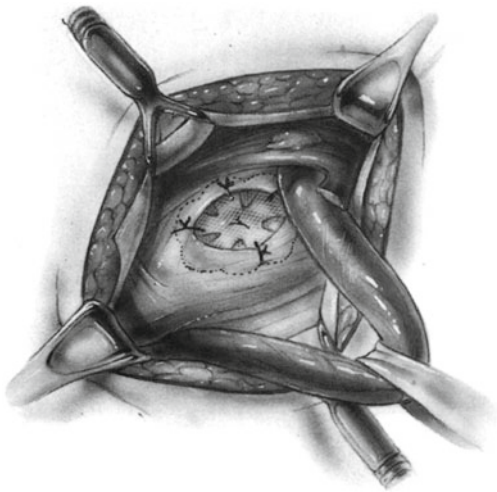

Fig. 102.2

incise the fascial defect with electrocautery and reduce the hernia with the attached portion of sac into the preperitoneal space.

Placement of Plug

Insert the preformed plug, pointed end first, into the internal ring of an indirect hernia or the fascial defect of a direct hernia so the petals unfold under the fascia and anchor it in place (Fig. 102.1). Occasionally, a direct hernial defect is so large two plugs, sutured together side by side, must be used to reduce it. Ask the patient to cough and assess the stability of the plug placement. Anchor the plug with three of four simple interrupted sutures of 3-0 PG placed to the inner aspects of the petals (Fig. 102.2), which allows the plug to expand behind the fascia and buttress the defect.

Placement of Onlay Patch

Insert the precut patch so it covers the floor of the canal with the cord coming through the hole and the incision and tails of the mesh extending lateral to the internal ring (Figs. 102.3 and 102.4). It should lie in a flat, stable position covering the floor of the inguinal canal and the plug (Fig. 102.5). Secure it in position with several interrupted sutures of 3-0 PG. Because the plug forms the primary strength layer of this repair, it is necessary to suture the patch in only a few places to ensure that it remains in the proper location until tissue ingrowth occurs. We tend to place sutures medially to the pubic tubercle, laterally to secure the two tails together and

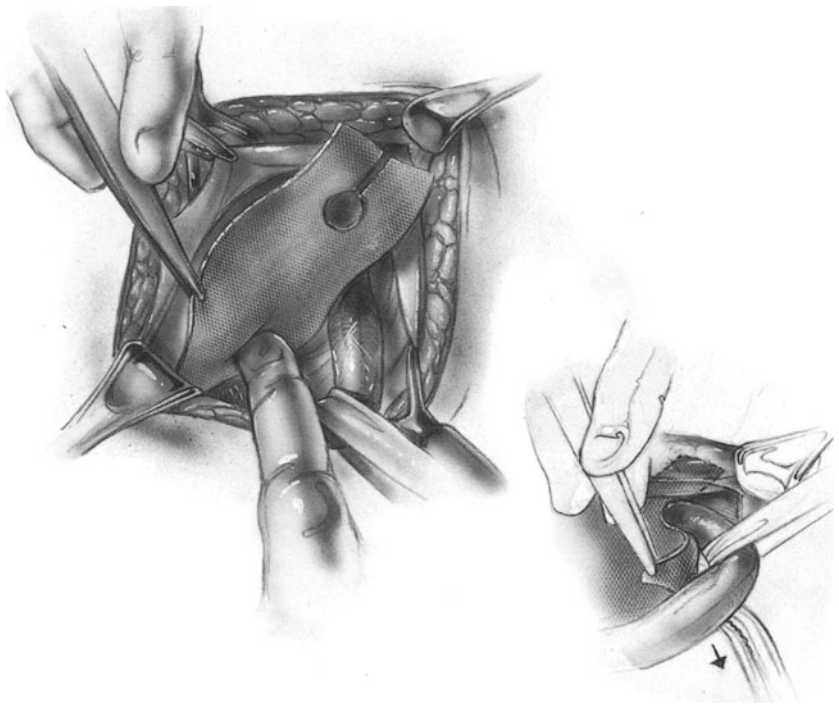

Fig. 102.3

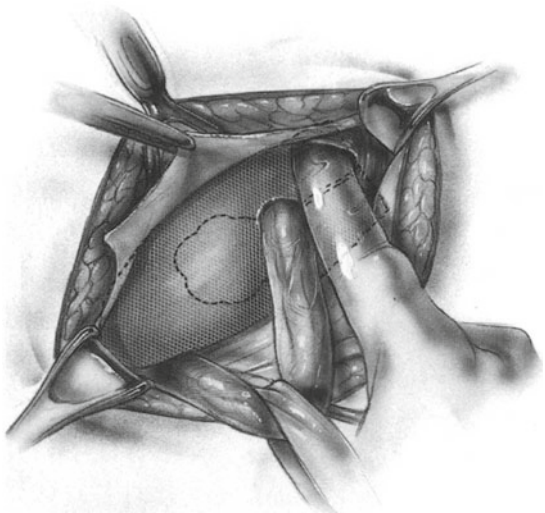

Fig. 102.4

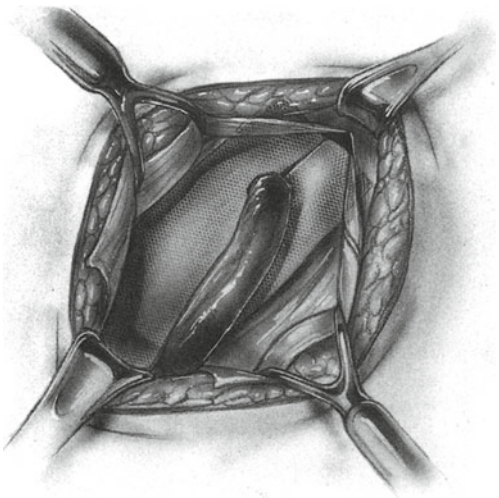

Fig. 102.5

tack the lateral part to the aponeurosis of the internal oblique muscle, inferiorly to the inguinal ligament, and superiorly to the conjoint tendon.

Closure

Close the external oblique and remaining layers in the usual fashion.

Postoperative Care

Patients are allowed to lift up to 25 lb immediately. They may resume heavy manual labor after 2 weeks.

Complications

Infection has been rare in most series.

Mesh migration into adjacent structures (femoral vein, spermatic cord), a theoretic concern, has not proven to be a significant problem. Rutkow and Robbins, in a 1998 review, were unable to find any documented cases.

Further Reading

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