



LAPAROSCOPIC INGUINAL HERNIA SURGERY

INTRODUCTION

The “open” Lichtenstein surgical procedure would be regarded as the “gold standard” for inguinal hernia surgery. The laparoscopic repair of an inguinal hernia is a satisfactory alternative procedure in selected patients. Based on the extensive scientific medical evidence provided by numerous studies, the laparoscopic, preperitoneal mesh repair (TEPP) is regarded as a safe, reliable option, in patients who have been correctly selected for this procedure.

The laparoscopic inguinal hernia repair is a good operation, in the correct clinical setting. The operation expedites the healing process and is associated with less discomfort than the “open” procedure, minimising the hospital stay and affording an earlier return to work. However, these potential advantages over the “open” repair should not be overstated. The open repair has equally good longterm results.

The operation involves the repair of the hernial defect from within the abdominal cavity, using a “minimally invasive” technique. The hernial defect is simply “patched” by the mesh, an attractive proposition as the pathology of the hernial defect is addressed at a “root cause” level, viz. within the abdominal cavity, in the preperitoneal space.

PROCEDURE

The pre-operative assessment of the patient, and the precautions against infection and DVT are identical to the open “mesh” procedure. The surgery requires the development of a preperitoneal space behind the abdominal muscles using a balloon dissector in the first instance and a subsequent structural balloon to maintain the space, together with insufflation with Carbon dioxide to facilitate visual access. The crucial aspects of the operation include the development of the preperitoneal space, adequate definition of the anatomy, and the complete reduction of the hernial sac, well back to within the abdominal cavity. The anatomy is carefully defined, the hernial sac dissected free and reduced, care taken to protect the spermatic cord structures. It is important to assess for both direct and indirect inguinal, and femoral hernias, which may occur concurrently. A large, lightweight, polypropylene mesh, 6 x 4 inches, preformed according to the shape of the pelvis is inserted. The mesh is positioned to cover all of the hernial defects using dissolving “tacks” to hold it in place. The preperitoneal space is deflated and the wounds closed. An assistant surgeon with experience in laparoscopic procedures is a key member of the surgical team.

Laparoscopic inguinal hernia repairs may be performed as a transabdominal, intraperitoneal procedure (TAPP) or an extraperitoneal procedure (TEPP), as described above. Although the TAPP is a proven, acceptable technique, the TEPP is a simpler procedure, and is generally regarded as superior to the TAPP. The TEPP reduces the risk of an intraperitoneal visceral injury, and avoids the risk of adhesions developing between the intestine and any exposed mesh resulting from the TAPP approach.

PATIENT SELECTION AND RISKS OF THE PROCEDURE

The laparoscopic procedure is particularly suitable for patients who have a recurrent inguinal hernia, thereby avoiding the scar tissue and adhesions associated with recurrent “open” hernia surgery. Bilateral inguinal hernias (both sides) are also ideally suitable for the laparoscopic procedure, performed bilaterally through the same access ports on the abdominal wall.

Contra-indications to the laparoscopic repair include: strangulated and irreducible hernias; anti-coagulated patients; prior major abdominal surgery: a history of a radical prostatectomy. Additional contraindications include: age over 70, obesity, very large inguinoscrotal hernias and patients with medical comorbidities.

“Safety” is always the first priority in the consideration of all surgical procedures.

The general anaesthetic required for the “open” repair is much “lighter” than the anaesthetic required for the laparoscopic procedure. The laparoscopic procedure requires full muscle relaxation, to allow the insertion of carbon dioxide gas, and to facilitate a space for the dissection and insertion of the mesh. Hence, the laparoscopic procedure requires a full endotracheal intubation by the anaesthetist with mechanical ventilation to maintain oxygenation of the patient.

Based on the available scientific medical evidence, women who develop an inguinal hernia should undergo an open, suture repair, as mesh is seldom required in the female. Bilateral inguinal hernias in women may be treated laparoscopically, in selected cases.

The lifelong risk of hernia recurrence following both the “open” and the laparoscopic procedure is reported at 3-4%, in the best institutions in Europe, North America and Britain. In my own practice, accepting that I do not have a perfect longterm follow up on all my patients, I am unaware of an “open” hernia repair which has recurred in the last thirty years. Six of the 3500 laparoscopic repairs performed are known to have recurred, three of whom required further surgery, the other three, too small to warrant further intervention.

The laparoscopic procedure is associated with a small risk of intra-abdominal visceral injury, as the procedure is performed within the abdominal cavity. With the correct selection of patients, this risk should be largely negated. An additional rare risk is the development of adhesions to the peritoneum overlying the mesh, with consequential intestinal obstruction, which may require a further operation. These complications cannot occur in the “open” procedure.

The main consideration in the laparoscopic procedure is the small additional risk associated with this operation compared to the open Lichtenstein repair. The additional risk is very small in the correct selection of patients and pertains to both the depth of anaesthetic required, as well as the presence of mesh within the abdominal cavity. There remain some questions about the longterm effects of mesh placed within the abdominal cavity.

CONCLUSION

The laparoscopic preperitoneal, mesh repair (TEPP) of an inguinal hernia repair is an excellent operation in the correct clinical setting. Dr Currer has a personal experience of over 3500 laparoscopic hernia procedures, acquired over a 30 year period.