

Early Complications of Prosthetic Inguinal Hernia Repair

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Abstract:

Objectives: to evaluate the use of mesh repair in inguinal hernia and its early complications.

Patients & Methods: prospective study, in the period from January 2004 to January 2005. Ninety-one patients who had mesh repair for inguinal hernia in the Ribat University Hospital (Sudan) were the base for this study.

Results: tension-free mesh repair was done for 87 males and 4 females. Three patients developed seroma, two patients developed haematoma and one patient developed superficial wound infection. Early recurrence (6 months) was not seen in this study.

Conclusions: mesh repair for inguinal hernia is a simple, safe and effective procedure with minimum early complications.

Key Words: Inguinal Hernia, Mesh Repair, Complications.

Inguinal hernia repair remains one of the most commonly performed operations worldwide. In the USA more than 700,000 operations were performed for primary groin hernia and over 50,000 for recurrent hernia every year¹.

Approximately 75% of all external abdominal hernias occur in the groin. Inguinal hernias are more common in the right side and are seven times more common in males². Inguinal hernia, as a rule, should be treated surgically. This advice is given in spite of the fact that in many surgeons' hands the end result of surgical treatment is disappointing with recurrence rate of 10- 15%³. There is a considerable controversy on the best method of operation.

The modern era of mesh repair began in the late 1950s with the introduction of polypropylene mesh by Usher and his colleagues³.

No evidence exists that polypropylene is associated with an increased wound infection rate, protracted wound healing or even breakdown of the hernia repair in patients with wound infection, and no need to remove the mesh even with abscess³. In 1998 about 80% of groin hernia operations done in USA and England were carried out with this tension-free technique. The advantages of this repair were its association with less pain, rapid postoperative recovery, early return to normal activity and very low recurrence rate¹. A large number of materials have been tested but currently three are in common use: Polyester mesh (Dacron, Mersilene), Polypropylene (Marlex, Prolene) and Expanded polytetrafluoroethylene (e-PTFE)⁵. Although attributed to Lichtenstein and popularly referred to as Lichtenstein tension-free hernioplasty the technique was first described twenty years earlier³.

The complications following herniorrhaphy are generally minor and self-limiting. Wound haematoma and superficial wound infections are the most common ones. More serious complications such as major haemorrhage, osteitis and testicular atrophy occur in less

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than 1% of patients⁶. These complications include wound Infection, seroma, haematoma, postoperative neuralgia and hernia recurrence^{6, 7, 8}.

Objectives:

The aim of this study was to evaluate our experience with the use of mesh in inguinal hernia repair and its early complications.

Patients and Methods:

This is a prospective descriptive study performed in the Ribat University Hospital between January 2004 and January 2005. Ninety one patients were included. Patients below 18 years and those with known medical co-morbidity were excluded. A questionnaire designed for this study was used for data collection. A polypropylene mesh was used for all patients who had open hernioplasty under spinal (96%) or general (4%) anaesthesia. Prophylactic antibiotics were given with induction of anaesthesia in form of 1.5 grams of second generation cephalosporin (Cefuroxime– Maxil). Prolene 2/0 suture material was used to fix the mesh to conjoined tendon and inguinal ligament in interrupted manner. Patients were followed for complications for six months postoperatively. Data were analyzed using the SPSS program.

Results:

Ninety one patients were included in the study; 87(96%) males and 4(4%) females with a mean age (+ SD) of 44.5 (+ 14.5) years. the hernia occurred in the right side in 72.5% of patients and 92.0% of the hernias were indirect. All patients were hospitalized for 24 hours only with exception of only one who spent 3 days in hospital. During the follow up for 6 months, no patient developed recurrence but three patients developed seroma, two haematoma and one patient developed wound infection.

Discussion:

Inguinal hernia is a common surgical problem which affects all age groups and both genders. Hernia repair is the most commonly performed general surgical operation. It

occurs with a greater frequency in males than in females (12: 1)⁷. In this study the male to female ratio was 22: 1. It has been estimated that worldwide over 20 million of inguinal hernia repairs are carried out annually⁸. The Bassini method dominated for almost 100 years, then challenged by Shouldice method which lowered the recurrence rate from 10% to 1%⁹. Now the era of Lichtensein who popularized the tension-free polypropylene mesh repair with recurrence rate of less than 1% is taking over. For a moment, it appeared as if the Lichtenstein technique might be the new standard for the next century. However, surgical inventiveness in mesh configuration (cones, patches, bilayers, or patches with perimeter rings) and in mesh placement (preperitoneal, transabdominal preperitoneal and extraperitoneal laparoscopic) proliferated in the 1990s. This technology explosion was propelled in part by manufacturers who discovered the market value of prepackaged mesh prostheses and laparoscopic disposables¹⁰. After mesh repair which can be done under local anaesthetic, the patient can be discharged within few hours¹¹. Only 4% of our patients required general anaesthesia. This goes with the literature where the operation was done under local anaesthesia as an outpatient procedure¹². In this study three patients developed seroma, two haematoma and one developed superficial wound infection. In the literature these complications were the most common problems but usually respond to conservative measure¹⁰. No recurrence was detected in 6 months follow up but this duration of follow up is short for assessment of recurrence¹⁰.

Conclusion:

In conclusion, the majority of the patients in our study were males (96%). The right-side was affected in 72.5% of patients. Tension-free mesh repair is a simple, safe and effective method of treatment for inguinal hernia with minimal complications.

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