

An Audit of Inguinal Hernia Repairs – a PESSI Experience

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Introduction: Inguinal hernia repair is the most commonly performed operation in general surgical practice. Advanced techniques like open and laparoscopic mesh repairs are the preferred operations these days. Social Security Health Care System working under PESSI (Punjab Employees Social Security Institute) provides a closed system of surveillance of operated patients. Patients once operated are on record and present for follow up to the relevant surgical unit for over a period of years, unlike the government hospitals, where patients are lost to follow up once they get discharged. **Study design:** Retrospective study. **Place and duration of study:** Department of Surgery, Punjab Employees Social Security Hospital, Ferozepur Road, Lahore from January 2001 to December, 2006. **Objective:** To establish the reliability of non-mesh tissue repair technique as a primary procedure in inguinal hernia. **Results:** About 500 patients underwent surgery for inguinal hernias. In those with primary inguinal hernia, tissue repair techniques (plication of transversalis fascia and darning of posterior wall with prolene No.1) were used while in those patients who had recurrent inguinal hernias, either tissue repair or mesh repair was carried out. Tissue repair techniques gave us excellent results with a recurrence rate of 0.4% (2/500) over a mean follow up period of 4.5 years. **Conclusion:** The reliability of inguinal hernia repair technique primarily with a mesh is not established whereas the old traditional tissue repair techniques have decades of experience to justify their reliability as far as recurrence is concerned.

Key words: Inguinal hernia, tissue repair techniques, negligible recurrence

Social Security Hospitals provide health care facility to entitled factory workers and their families. It is a closed system where we have records of all patients including follow up extending over a period of years. Hence the validity of follow up is more accurate under such a system.

We operated upon about 500 patients of inguinal hernia over a period of six years, from 2001 to 2006. The technique used in majority of patients was tissue repair (plication and darning). The aim of bringing forth this issue was to critically assess the feasibility of tissue repair techniques as a primary procedure in inguinal hernia repairs as compared to more recent mesh repair techniques.

Methods

Retrospective data was collected for inguinal hernia repairs carried out over a period of six years from 2001 -2006 in a 30 bedded Social Security Hospital, Ferozepur Road, Lahore. About 500 patients including both males and females above 12 years of age reporting to the surgical outpatients department and emergency with either primary or recurrent inguinal hernias were included. All patients were admitted and either spinal or general anaesthesia was administered. All the patients had preoperative antibiotic injections. The patients were discharged on the 1st or 2nd postoperative day depending on the postoperative course of recovery from anaesthesia. Since most of the patients were heavy mechanical factory workers, they were advised three weeks of bed rest and return to work was certified by the operating surgeon at the end of three weeks. Postoperative complications were noted in OPD slips and most importantly recurrence was looked out for.

The most important aspect of inguinal hernia surgery under this set up was the provision of a standard set of conditions like:

- Provision of same kind of suture materials
- Provision of same antibiotics
- Provision of same duration of bed rest.
- Provision of same postoperative medication and most importantly, operation by the same surgeon with more than 8-10 years post fellowship experience.

Results

Out of a total of 500 inguinal hernia patients 488(97.6%) were males and the rest 12(2.4%) were females. Most patients fell in the age range of 30-60 years (88%). About 125(25%) of them, all males, had bilateral inguinal hernias. The incidence of direct inguinal bilateral hernia was seen in a considerably younger age group (35 onward) (probably because of the heavy physical work performed by these factory workers).

Out of the 12(2.4%) females operated 6(50%) had direct inguinal hernia and 2 patients had coincidental femoral hernias. Femoral hernia was also seen commonly in the older male population either presenting coincidentally with an inguinal hernia (1% of all males) or missed at operation and presenting immediately afterwards, one elderly male presenting with a femoral hernia 3 weeks after operation for inguinal hernia (false recurrence).

About 5% of our total patients presented as obstructed inguinal hernia in the surgical emergency. They were operated soon afterwards or on the next available list. None of them had strangulation.

480(96%) patients with inguinal hernia underwent primary tissue repair which included plication of transversalis fascia with 3/0 prolene in more than 50% of all cases and a figure of eight darn of the posterior wall

with prolene No.1 in almost all cases except a few with Bassini's repair.

External oblique was closed with vicryl No.0. Even ligation of the sac was done by using a vicryl 0 purse-string suture. Catgut was not used in any case at any step to avoid postoperative wound sinus formation. The remaining 20(4%) patients who had recurrent inguinal hernia (from a previous peripheral surgeon), in about 4 patients we were able to achieve a reasonably sound repair by using tissue repair techniques (because the previous surgeon had not damaged the tissue layers). The remaining 16 patients had a mesh repair with a 6x11cm polypropylene mesh by an onlay technique. No recurrence was noted in any patient with recurrent hernias either with tissue repairs or the mesh repairs. However, seroma and haematoma formation was seen more frequently in the recurrent cases with mesh repairs.

True recurrence was noted in 0.4% (2 patients out of 480) who had undergone primary tissue repair after a mean follow up period of 3 years.

Discussion

In this era of advanced technology, inguinal hernia repair has seen a revolutionary change from tissue repair technique of 1970s & 1980s to laparoscopic repair, laparoscopic mesh repair and primary repair of all inguinal hernias with some kind of mesh^{1,2,3,4,5}.

However, in our set up we stuck to the traditional tissue repair techniques (transversalis fascia plication and posterior wall darning) and compared the results retrospectively with some mesh repair carried out by ourselves and others as well^{1,2,6,7}.

We have found that the level of postoperative complications (like pain, seroma, haematoma, wound infection) and most importantly recurrence rate is much lower as compared to the advanced methods of repair using a mesh. We have encountered cases of huge recurrences in our clinical practice in patients who had undergone primary mesh repair by eminent surgeons.

The question is; what to do if such a recurrence occurs after primary mesh repair? Removal of mesh and resuturing in such cases would be called a surgical disaster. In my opinion, mesh repair should be avoided in young patients with indirect inguinal hernias because these patients usually do not have weak posterior walls.

Mesh repair as seen in our experience is more beneficial for chronic recurrent cases where the anatomy is very much disturbed and layer identification is difficult.

Laparoscopic repair has even lesser place in the management of inguinal hernias because assessment of

wall strength is usually made by the open method and the decision to place a mesh also depends on judgment of the surgeon. Tissue repair technique, on the other hand has very low recurrence rate in experienced hands and is still the preferred method as shown by Shamim et al⁷.

Use of proper suture material (like vicryl 0 instead of catgut, transversalis fascia plication with prolene 3/0 and prolene No.1 darning of posterior wall) and correct placement of these sutures so as to achieve a tension free repair in the secret to the success of the repair.

On the other hand improper technique of mesh placement and anchorage either by the open method or via the laparoscope may give rise to grave complications which may not be remediable later on.

Conclusion

- Open non-mesh tissue repair technique is still the best possible type of repair for primary inguinal hernias.
- Mesh repairs may be safely restricted to recurrent cases where anatomy is very much deranged by previous surgeries.
- Simultaneous repairs of both sides may be carried out if possible.
- A diligent search for coincident femoral hernia must be carried out in elderly males because these missed hernias may present as false recurrences

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