

Open extraperitoneal approach for recurrent inguinal hernia

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Abstract

Hernia recurrence has always been a challenge to general surgeons. With the use of synthetic polypropylene mesh, the situation has become more difficult. Currently the standard of care for recurrent inguinal hernias, at least in the developed world, is laparoscopic preperitoneal repair. However laparoscopic repair has several drawbacks. This new technique provides the freedom of dissection in a virgin plane and our small series of cases show some promising results.

Background

Inguinal hernia recurrence has been drastically reduced with the introduction of the synthetic mesh. However, when recurrences occur with polypropylene mesh repairs, re-do procedures are difficult and associated with complications like haematoma formation, seroma, chronic pain and ischemic orchitis [3]. Therefore, laparoscopic preperitoneal hernia repair is desirable over conventional anterior open approach repair for these patients. Even though the laparoscopic preperitoneal repair is desirable, the prolonged learning curve and longer operation time are major drawbacks that are compounded by unavailability of equipment and cost in developing countries.

Below we describe our surgical technique and our early results.

Method

Dissection of tissues where prosthetic mesh has been placed is difficult and risky. An open extraperitoneal

approach gives the freedom of dissection in a virgin plane; there by minimizing the risk associated with the conventional anterior approach. Open extraperitoneal repair has been practiced since the late 1950's with promising results [4,5]. Subsequently, Nyhus and Stoppa described two different approaches for recurrent hernia repair [1,2]. However, we excised the previous scar for access through the skin and incised the subcutaneous fat, up to the external oblique (EO) aponeurosis. Next, the EO is split about 2cm above the adhesion (previous scar) to expose internal oblique (IO) muscle. Both IO and transverse abdominus (TA) muscles are split to expose the preperitoneal space and the dissection continues to identify the hernia and to preserve the cord structures. Constant land marks are the pubic bone and the inferior epigastric artery (similarly to a laproscopic total extraperitoneal repair (TEP).

A cotton gauze swab is placed to achieve haemostasis and after complete peritonealisation of the hernia, a 11X6cm polypropylene mesh is used to reinforce the hernia defect irrespective of whether the recurrence is medial or lateral. Tension approximation of tissues were not done although it has been practiced in the past by several authors [4]. The mesh was plicated to the under surface of TA (figure 1-3). Routine closure was done with approximation of muscles.



Figure 1. Dissection along previous scar tissue

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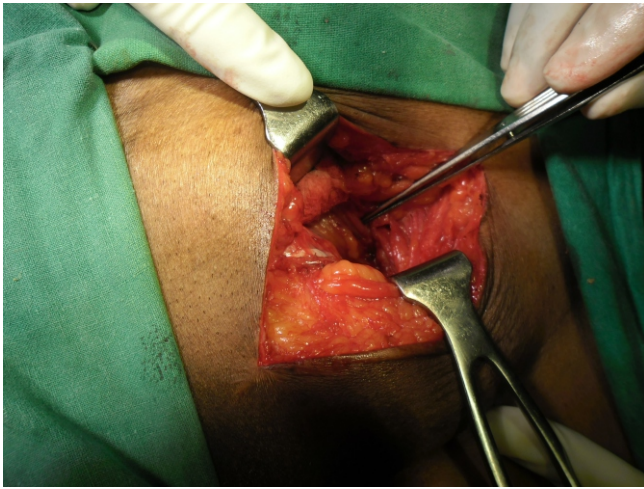


Figure 2. Inferior epigastric artery and cord structures

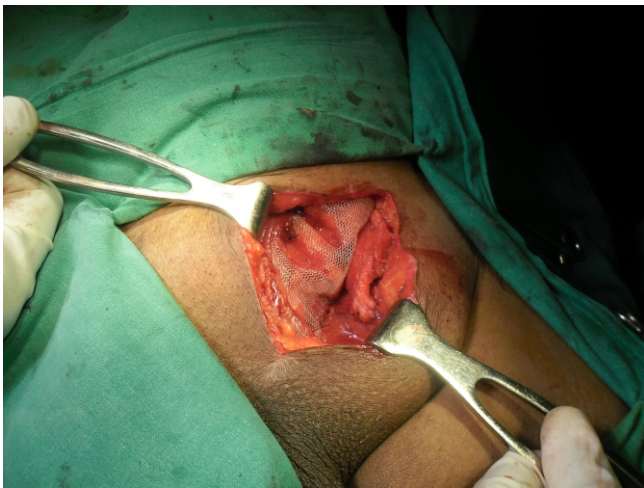


Figure 3. Plication of the mesh

Results

Eighteen recurrent inguinal hernias were operated from March 2011 to September 2013. All were male and the average age was 63.2 (56 – 79) years. 16 cases out of 18 had medial recurrence. None of them had femoral defect. Most were ASA 1 or 2. All patients underwent surgery under spinal anesthesia; operating time was 45-60 minutes. Complications were acceptable; only one patient had a haematoma and three had mild groin pain on follow up ranging from 2 weeks to 10 months.

Discussion

Recurrent inguinal hernias are fixed by anterior or posterior approaches. Posterior approaches include open preperitoneal repair and laparoscopic preperitoneal repair. The anterior approach is becoming obsolete due to the high rate of complications like cord ischaemia, chronic groin pain and haematoma [3,6].

At least in the developed world, the standard of care of recurrent inguinal hernia is laparoscopic preperitoneal repair, either total extraperitoneal (TEP) or transabdominal repair (TAPP) based on the surgeons preference. However, in countries like Sri Lanka surgical facilities are not equally distributed in the peripheries. Therefore, our new technique will be a good alternative to laparoscopic hernia repair. Furthermore, an open extraperitoneal repair is not necessary to be performed under general anaesthesia in contrast to a laparoscopic repair, hence saving of operating theater time. Nevertheless, cosmetic outcome and pain management is better with laparoscopic operations [3]. Unfortunately pain was not objectively assessed in our study; however we did not observe any additional analgesic requirement amongst our patients when compared to open inguinal hernia repair patients. However, it is a well-known fact that a laparoscopic approach gives less pain in hernia operation [6]. In comparison to the previously described open pre peritoneal procedures like Nyhus operations [1] and Stoppa procedure where access to the pre peritoneal space is obtained by new incisions, via the transverse lower abdominal and lower midline incisions respectively, our new method gives a better cosmetic outcome as this method gains access through the previous surgical scar. In places where day surgery practice is well established, hernia operations are performed as day surgery procedures. However, in our practice no established day surgery protocol is present and hence an average hospital stay was 48 hours as these patients were admitted to the hospital on the previous day. Most importantly there was no additional health care costs as we did not utilize any other additional consumables or instruments. The standard 6 * 11 cm polypropylene mesh was used to reinforce the defect.

The down side to our study is that the population was small and follow up duration was short. However low rate of haematoma (1/18) and groin pain (3/18) are acceptable with published data [6]. More than the results, the authors' main aim was to describe this new technique.

Conclusion

This new technique is a good alternative for laparoscopic herniorrhaphy, since the procedure can be done under spinal anesthesia with less complications

and shorter theater times. Furthermore, surgical access is taken through the previous scar and the authors believe cosmetic outcome is better than the previously described open extraperitoneal operations in which surgical access is through new incisions.

However, more numbers and randomization is needed to identify the procedure of choice for recurrent inguinal hernia.

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Key Points:

- Anterior conventional approach for recurrent inguinal hernias are obsolete.
- The unavailability of technology (for laparoscopic hernia repair) should not be a reason for the provision of sub optimal care.