WHICH HERNIA WHICH REPAIR? EXPERIENCE WITH PRE-PERITONEAL STOPPA'S REPAIR

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ABSTRACT

Objective: The objective is to evaluate an alternate hernia repair technique for complex, combined primary and recurrent groin hernias.

Design of Study: Quasi – experimental study.

Place and duration: Surgical unit II, Ward – III CMH Rawalpindi from Jan 2002 to Jan 2005.

Patients and Methods: This study included forty patients having inguinal hernias with 31 to 70 years of age. Twenty patients having primary bilateral, 10 cases with recurrent hernia and 10 with complex hernias. Mean hospital stay ranged from 1-5 days with average 3 days. General anaesthesia was administered in 35 cases and spinal anaesthesia only in 5 cases. Mean operation time was 70 minutes (Range 45-110 min).

Results: Recurrence was noted only in one case. There was no need of conversion to another technique where as no case had mesh infection. Minor wound complications such as seroma or erythema were noted in few cases without any peri operative death.

Conclusion: Stoppa's repair is safe, effective addition to surgeons armamentarium to treat complex, groin hernias. It provides facility for repair to three critical areas, such as direct, indirect and femoral hernia.

Keywords: Pre-peritoneal hernia repair – stoppa's technique

INTRODUCTION

History of herniology goes along the story of success and failures of human race. Incidence of groin hernias is generally less than 5% of the population [1-3]. Hernia repair is one of the most common surgical procedures performed in USA with 700,000 operations each year [4]. Where as in UK about 80,000 herniorrhaphies are performed annually [5]. In other words it is the second most common general surgical procedure being practiced [6-8]. About 80% procedures are performed with mesh repair (anterior approach) and 9% are being done with pre-peritoneal technique [9].

With the need to reduce the rate of hernia recurrence, post operative pain and convalescence, the treatment underwent dramatic evolution with concept of tension free hernia surgery and laparoscopic technique [10]. On the other hand raphies performed by suturing and closing the inguinal canal may lead to excessive tension resulting in pain and recurrence [11]. Since most of the techniques adopted the anterior inguinal approach to treat this anatomic defect but it was not equally effective to treat the complicated hernias. Therefore in order to reduce the complications and particularly for management of complex hernia cases (recurrent, large scrotal, bilateral and femoral) preperitoneal approach with mesh insertion has proved to be the best alternate technique [12-14].

The concept of posterior (preperitoneal) technique was initially introduced in 1886 by the annaldale of Edinburgh. Mr. Cheatle and

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Reay Young made few modifications in the technique. It was in 1965 when French surgeon Rene E. Stoppa's [14] revolutionized this technique with mid line preperitoneal approach using mesh. Thus it is very popular in France and USA.

The purpose of this study is to evaluate this alternate method of hernia repair for complex, combined primary, bilateral and recurrent groin hernias to prove its simplicity and efficacy.

PATIENTS AND METHODS

A quasi-experimental study conducted on 40 patients with inguinal hernias was carried at CMH Rawalpindi, Surg unit II ward III between Jan 2002 to Jan 2005. Inj cefuroxime Na 750 mg IV 8 hourly perioperatively for 03 days for every patient was used. Prolene mesh 30x30 cm sized remained the standard mesh. General anaesthesia was administered in 35 cases where as spinal anaesthesia was used only in five cases.

These patients were followed for six months for complications. Frequency of various types of inguinal hernias such as bilateral, complex, giant and recurrent were noted. [Only males were included in this study].

Following technique / steps were observed.

- Infra umbilical midline skin incision with supine Trendlenberg position of the patient.
- Two spaces dissection – Retropubic space of Retazius and retroinguinal space of Bogros.
- Hernial sacs/reduction/ division of sac with modification as narrowing of hernial orifices with few sutures done.
- Spermatic cord - prarietalization by dissection from peritoneal attachments.
- Placement of mesh with help of 8 long clamps with stitching of mid portion of superior border of mesh.

RESULTS

Forty patients we included in this study. Age range noted between 31-70 years. Operation time ranged from 45-110 minutes with mean operative time 70 minutes. The mean hospital stay ranged from 1-5 days with average of 3 days. There was no need of conversion to another technique. None of the cases had mesh infection and no perioperative death noted in this study. Results obtained from this study are given in table-1 & 2.

Table-1: Detail of inguinal hernia cases (n=40).

Type of Hernia	No of cases	% of cases
Primary bilateral inguinal hernia	20	50%
Recurrent inguinal hernia	10	25%
Giant complex hernia	10	25%
Size > 10 cm (Large direct hernia)	04	
> 10 cm (Large indirect hernia)	04	
> 10 cm (Sliding inguinal hernia)	02	

Table-2: Post- op complications (n-40).

Type of complications	No of cases	% of cases
Superficial wound infection	06	15%
Chronic pain abdomen	04	10%
Urinary retention	04	10%
Paralytic Ileus	03	7.5%
Recurrence	01	2.5%
Retroperitoneal haematoma	01	2.5%
Pneumonia	01	2.5%

DISCUSSION

Over the years numerous "innovations", have been advocated as answers to the problems associated with groin hernia surgery. These innovations in technique no daunt continue to spur advances in herniology. If anything has been the result of these advances it should be the realization that there is no perfect repair and no repair equally applicable in every case. So purpose of every technique is the same to eliminate hernial defect by closing, bridging, plugging and or patching. In the presence of so many methods, the notion, which hernia which repair stands very valid.

Standard anterior herniorraphies are good for many simple, non complicated

hernias. But what about complex, bilateral and recurrent inguinal hernias. There fore surgeon must tailor the choice of repair for each patient on its merits. Due to this complexity of opinion, preperitoneal (Stoppa's) repair is the solution for these difficult cases. It provides complete dissections to the abdominal wall, identification to any structural weakness in three critical areas for direct, indirect and femoral hernias. More over it allows the surgeon to cover all potential defects with one piece of mesh [15]. Major advantage of this technique is that it provides clear understanding of hernial lesions in order to avoid pit falls in the repair.

Present study provided good basis to work with this technique, after proper dissection, important point is proper placement of the large mesh. Therefore care is needed for prevention of eventration of mesh. It is said that initially intra-abdominal pressure but later on connective tissue ingrowth holds the mesh in place.

Result analysis of this study revealed only one case of recurrence. It is most likely due to technical error such as incorrect unfolding of the mesh on itself or rolling up of mesh subsequently. This was prior recurrence case as well. Published recurrence rates are also very low between 1.4 to 2.2% even in patients with prior recurrence.

Testicular complications anticipated with anterior raphies can be effectively prevented by the use of this technique. This is even more evident when it is applied to recurrent hernias, other wise it also yields very low recurrence rate and effectively eliminate testicular complications [16].

Beside recurrent hernias, good results are noted with complex hernias and we can say that TEP achieve very good results in terms of recurrence rate in complex hernias also [17]. The predicting factors for recurrence are large hernial size (>5cm), failure of one or more previous repairs, chronic cough and with other associated lower abdominal wall hernias. This technique is primarily meant for these types of problems. Otherwise technically it is simple to learn & tension free. Other complications noted in this study are minor wound infection, chronic pain abdomen, paralytic ileus, urinary retention and atelectasis but incidence noted was very low.

This technique also gave birth to laparoscopic hernia repair as it mimics this posterior mesh insertion technique. The pre peritoneal space is ideally suited for the repair of inguinal hernias. Thus no other technique produces better results than, this for complex hernias. Therefore it is said that preperitoneal stopp's repair is absolute weapon to eliminate all types of groin hernias.

CONCLUSION

Stopp's repair is safe and effective addition to surgeon's armamentarium to treat groin hernias particularly complex hernias.

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