EARLY POSTOPERATIVE COMPLICATIONS OF STOPPA'S REPAIR

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ABSTRACT

Objective: To evaluate early postoperative complications of Stoppa's properitoneal mesh repair for bilateral inguinal hernia/recurrent hernia.

Design: A prospective, non-randomized interventional and comparative study.

Place and Duration of Study: This study was carried out at Combined Military Hospital Rawalpindi from June 2002 to October 2003.

Patients and Methods: A total of 30 patients who underwent hernial repair were included in this study.

Results: All patients were males with ages ranged from 40-65 years (mean age was 54 years). Eight patients (27%) had primary bilateral inguinal hernia and sixteen (53%) had a unilateral recurrent hernia and contralateral primary hernia. Six (20%) had a bilateral inguinal hernial repair with unilateral recurrence.

Conclusion: The Stoppa's repair is a worth while method of inguinal hernial repair.

Keywords: Inguinal hernia, stoppa's repair complications

INTRODUCTION

Posiphae, Minitour, Labyrinth and Ariandenewith that beautiful enormous thread branching, guiding in stone darkness. And then return of triumphant.

Yiannis Ritsos

In 1989, bendavid exclaimed about the growth of hernia treatment "Since the epoch making contribution of Basini in 1988, no less than 81 inguinal and 79 femoral operative techniques have been described [1,2]. A decade later we must humbly accept that despite latest success in repair, to Paraphrase Ritsos, we are in shadow [3,4].

Groin hernioplasties are the commonest surgical operation performed by general surgeons. In UK, 80,000 hernioplasties are performed each year, 80% by mesh repair – 90% being properitoneal, and 1/3rd of mesh recipients are under 40 years of age. With or without mesh, infrction rate varies between 1% and 5% [5,1].

Around the year, hernia recurrences, nerve entrapment and groin pain continue to plague the patients and frustrate the surgeons. So a need of possible revolution for repair of even the worst cases ceases to exist [1,6]. The midline properitoneal approach allows the surgeon to reach deep myopectineal space of Fruchand, where all groin hernias begin without going through scarred tissue and with a wide exposure while also managing a deep cleaved space for placement of large 30 x 30 cm bilateral prosthesis which renders the peritoneum inextensible, so concept of herniation is inconceivable [1,2,7].

Surgeons arrive at a surgical truth by carefully gathering and evaluating factual evidence. A search for truth requires willingness to accept change and new ideas [8,9]. Because it is based on anatomic considerations with sound surgical principles, open properitoneal approach can be the preferred operation for repair of recurrent

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groin hernia and primary bilateral inguinal hernia [6,4,10].

Purpose of the Study:

To evaluate early post operative complications of open properitoneal mesh repair for bilateral inguinal hernia/recurrent hernia.

PATIENTS AND METHODS

A prospective, non-randomized interventional and descriptive study trial was carried out in Combined Military Hospital assessing the postoperative complications of open properitoneal mesh repair for inguinal hernia.

Patients:

Total of 30 patients reporting to surgical OPD of combined military hospital, Rawalpindi, from June 2002 to October 2003 were included in the study. These patients included civilians, serving personnel, and their entitled parents.

Counseling:

Counseling of the patients was done explaining them in detail the advantages and disadvantages of the procedure.

Selection Criteria:

- Primary bilateral inguinal hernia
- Recurrent inguinal hernia (unilateral or bilateral)
- Associated risk factor.
- Large size > 5 cm.
- Age 40-65 years.
- Male patients only.
- No systemic disease leading to impairment of immunity.

Exclusion Criteria:

- Primary unilateral inguinal hernia
- Complicated inguinal hernia i.e, incarcerated, strangulated.
- Sepsis or dermatosis of abdominal wall.
- Midline abdominal scar from previous operation.
- Patients unfit for general anesthesia.

Diagnosis:

This diagnosis of hernia was based upon history and clinical examination of patients and these symptoms and signs were recorded on a Diagnosis Performa (Annes A)

Patient Population and Hernia Characteristics:

Number of patients	30
Number of hernias	55
Male/Female	all males
Size R/L	3.6 cm/3.2cm
Large size > 5 cm	20 (8 of 30)
Failure of one or more	
Previous repairs	53% (16 of 30)
COPD	17% (5 of 30)

Investigations:

For the purpose, all patients underwent following investigations.

- Blood complete picture
- Urine routine examination
- Chest X-ray
- Electro echogram
- Serum urea and creatinine
- Blood glucose

Additional tests like ultrasound for kidney, prostate and abdominal mass were carried out depending upon the personal and family history of the patient.

Preoperative fitness of general anesthesia was obtained.

Anesthesia:

All repairs were done under general anesthesia; Pentothal (Thiopentone sodium) was used for induction. Succinyl choline or pavlon (pancurronium bromide) was used as a muscle relaxant. Halothane, 150 flourane or nitrous oxide was used for maintenance. Endotracheal intubation was done.

Operative Technique:

Skin Preparation

The hairs were shaved form the area where skin incision was planned, just before operation. The skin was then prepared using an iodine povidone scrub (Betadine) and painted for 03 minutes.

Pre-Op

Each patient emptied his bladder immediately before operation. Pt was made NPO 06 hrs before operation.

Incision

Midline incision made extending from 2 cm below the umbilicus to 1 cm above the symphysis pubis. Dividing, skin, subcutaneous tissue and linea alba. PT is tilted 20-30 head down.

Operation Steps

The properitoneal space is entered with blunt dissection aided by sharp dissection.

The dissection includes retro pubic space of retzius, extending laterally into space of Bogros progressing to retroingunial space exposing illopsoas muscle. Deep dissection exposes the superior iliopbic ramus, obturator foraminas. Regarding direct hernia large sacs are ligated with purse string suture. In indirect hernias sac can be divided and proximal peritoneum oversewm. The spermatic cord and gonadal vessels are parietilized by dissecting them from their peritoneal attachment. The Mersilene mesh 30 x 30 cm is placed in properitoneal space. The assistant retracts the parietal wall and surgeons depress with (L) hand the peritoneal sac to open the properitoneal space.

The merisilene mesh is stitched with two stitches at the pectin pubis bilaterally. Mid portion of the superior border is stitched with a single stitch to the posterior rectus sheath. Two redivac drains are placed infront of mesh and brought out via separate stab wounds.

Closure

Wound closed with a prolene 1/0 and skin closed with subcuticular prolene 3/0.

Removal of Stitches

Skin stitches were removed on 8th postoperative day.

Antibiotics

Inj Zinacef 750 mg i.v was given on induction of anesthesia, continued as 750 mg 8hrly and than tablet Zinnat 250 mg 8hrly for 48 hrs.

Follow Up

Following operation no limitation of physical activity was imposed. Patients were evaluated one week after operation by interval history and focused physical examination. Further follow up in Surgical OPD for any complaints in accordance with the proforma given to patient.

Complications in the early postoperative period at each follow up visit were maintained in a 'follow up proforma'.

STATISTICAL ANALYSIS

Descriptive statistics i.e percentage, mean, were used to describe the data using SPSS ver-10.0.

RESULTS

Til to date it has been possible to evaluate the patients in out door 30 out of 30. All patients were male and were elective admissions in surgical unit I Combined Military Hospital, Rawalpindi. Patients between the ages of 40-65 yrs of age were selected. Mean age of the patients was 54 with peak incidence in 5th and 6th decade, 39.5% and 42. 8 respectively.

Eight patients (27%) had primary bilateral inguinal hernia. Sixteen (53%) had a unilateral recurrent hernia with contralateral primary hernia. Six (20%) had a bilateral inguinal hernial repair with unilateral recurrence.

Modes of Presentation:

The most common mode of presentation was swelling with recurrence with 17 (57%) presenting with his symptom. Next common complaint was pain in the swelling and chronic groin paing 8 (27%) only two patients had complaint of lower abdominal pain 1%.

Post Operative Pain and Morbidity:

Overall patients were very satisfied with the operation. The absence of limitation in the level of activity post operatively is based on the safety provided by wide tension free mesh abdominal forces again the lower abdominal wall (Pascal's hydrostatic principles) and further fixing the prosthersis (Dacron mesh) against the posterior abdominal wall.

Results:

Conversion to another technique	0/30
Need for counterincision	Nil
Mean operative time	125 min
Early Recurrence	Nil
Chronic pain	Nil
Hospital length of stay	4+2 days

Post Operative Complications:

Postoperative Death	0
Mesh infection	0
Pneumonia	0
Wound Haematoma	3
Illeus	6
Urinary Retention	0
Wound Infection	
Superficial	3
Deep	0

DISCUSSION

Groin hernias represent 75% of all hernias. It a disabling affliction with a lifetime prevalence of 25% in men and 2% in women [9]. Incidence of incarceration is 10%. First time recurrent hernia fail in 1 to 30% of cases, second time recurrent repairs do so at the rate of 3% to 35% and third time or more repairs fail in > 50% cases [6,10].

Integrity of myopectioneal orifice is dependent on fascia transversalis. Failure of transversalis fascia-fascial diathesis or deficient collagen type III-to retain peritoneum then becomes the fundamental cause of all hernias of the groin. Thus prosthetic repair of fasica transversalis is logical for weakness hernias caused by deterioration of musculofasicial layer [2,12,13].

The best reason for the use of mesh is their redical efficacy. They solve instantly and definitively the mechanical problem created by deficiency of impervious layer of abdominal wall in hernias because they reinforce the endoabdominal fascia or replace it. They are also a definite solution against scar aging [2,7,14].

We have used Mersilene mesh in repair because of its unique properties [15,26,18].

- It has no plastic memory and adapts to endopelvis.
- Induces fibrous in growth preventing migration.
- It does not encapsulate minimizing fluid collection.

For any mesh based repair one operation fits all is implied, which seems more logical, rational and cost effective [15].

Argument over the inguinal or transabdominal routes for the repair of groin hernias as the best surgical approach is the modern expression of old age duality [16,14].

Subumbilical midline propertioneal approach provides facility of separation of retrofascial spaces, direct access to bilateral posterior inguinal structures, clear understanding of hernial lesion and good exposure of musculopectineal opening [3,20]. Placing a large bilateral mersiline 30 x 30 cm mesh in the naturally cleaved retrofascial space able to enwrap the visceral sac, as does natural endoabdominal fascia, making the peritoneum inextensible so that herniation could no longer appear. Using in advantage the same intra abdominal pressure which

caused herniation to fix prosthesis against posterior abdominal wall [2,5].

In multirecurrent hernia we progressed from normal anatomy – virgin tissue to abnormal anatomy – there is no additional deterioration of already weakened inguinal structures and no risk of injury to cord or superficial nerves, thus the number of testicular atrophy and painful sequelae are decreased [4,15].

This technique also preserves the mechanisms that protect inguinal region from the effects of increased abdominal pressure and does not impede further operations on abdomen [12,13].

Surgeons test the veracity of literature in the laboratories of their own operating room, but the studies comparing diverse techniques will not lead us to an exclusive choice because hernias are Polymorphous lesions. Randomized studies are inconsistent with the principle of hernia cure. So they pose a quasimeta physical problem to the surgeon who as a oraftsman is prone to practice his best "Savior Fire" and reluctant to proceed at random [2,8].

So considering its logically based conception, its proper application of a physical rule (Pascal's law) – scientific base- its easy correct performance, short learning curve and satisfactory reproducible results, can be trusted as an irreplaceable one [5,16,17].

Previous Experience:

Bad experiences make good judgments, summarizes the development of a surgeon.

Studies were done on stoppa's repair in 1996 – 97 at Combined Military Hospital Rawalpindi; we haven't seen a single case reporting back for mesh infection, groin pain. But we have seen 04 cases of recurrence – occurring from infermedial end of mesh so we have modified based on conception by applying two stitches to the mesh on pactin pubis.

CONCLUSION

Stoppa operation although not a panacea but rather a worth while method of repair of even difficult cases. There is need to maintain expertise this method of repair alongwith once chemical produces of hernia repair.

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