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DARNING VS BASSINI REPAIR FOR INGUINAL HERNIA;

A PROSPECTIVE COMPARATIVE STUDY

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ABSTRACT... uswah@fsd.paknet.com.pk Introduction: Inguinal hernia repair is the most common surgical procedure performed after appendicectomy. There are many methods of repair practiced through out the world amongst which are the open hernia repairs and laparoscopic repair, two main types. Aims and Objectives: To find out the early recurrence within one year of the two open conventional methods, darn repair verses Bassini repair for the inguinal hernia. Patients and Methods: This study was carried out in the Surgical Unit 1 Allied hospital Faisalabad. One hundred adult male patients admitted in surgical unit I with clinical diagnosis of incomplete indirect inguinal hernia, were randomized to Bassini or Darning repair. Patients with contraindications for general anaesthesia, coagulation problems and those presenting with strangulated and obstructed hernia were excluded form the study. Results: Out of 100 patients, Fifty underwent Bassini repair with prolene and the other 50 had Moloney's Darn repair with prolene.65% of patients were in 20-24 yrs age group. Sixty four percent patients had right sided inguinal hernia.88 % had reducible inguinal hernia. In post operative complications, six patients with darn and 10 patients with Bassini had pain requiring strong analgesics. Haematoma was formed in 1 patient with darn and 2 patients with Bassini. Wound infection occurred in one patient with darn and three patients with Bassini. Only one patient with Bassini repair came back with recurrence after six months of operation. Conclusion: Bassini repair and Moloney's darn repair are comparable for young patients having primary hernia. However, Moloney's darn repair is superior in terms of post operative pain, need for analgesia and early ambulation.

Keywords: inguinal hernia, moloney's darn, Bassini, Early recurrence

INTRODUCTION

Hernia is defined as the protrusion of a viscus or a part of a viscus through an abnormal opening in the wall of its containing cavity. Inguinal hernia repair

is the second most common surgical procedure after appendicectomy. Most inguinal hernias are indirect[1]

Inguinal hernia has a life time prevalence of 25 % in men and 2% in women. Male and female ratio is greater than 10:1 Two third of hernias are indirect and nearly two third of recurrent hernias are direct.

Inguinal hernia has approximately 10% incidence of incarceration and a portion of these may be strangulated. Recurrence rate is less than 1 % in children and vary in adult according to the method of repair.

Over the years, a number of methods have been described for the repair of inguinal hernia such as Bassini repair, Stoppa repair, Mcvay repair, Lichtenstein repair and laparoscopic repair, yet conventional open repair like Bassini and Darning are still widely practiced in our country.

Laparoscopic and Mesh repair are not considered cost effective. It is essential that surgeons should adopt one good open repair that would have least morbidity and allow patients to return to their work earlier. Even after introduction of laparoscopy, open techniques has re emerged as method of choice in west due to increase operative time and cost involved in laparoscopy[2,3].

Our study was carried out in Surgical Unit 1 on two groups of patients who underwent the Bassini and Moloney's darn repair and results were compared.

AIMS AND OBJECTIVES

To find out the early recurrence with in one year of the two open conventional methods, Moloney's darn repair Versus Bassini repair for the inguinal hernia.

PATIENTS AND METHODS

This study was carried out in the surgical unit -1 of Allied hospital Faisalabad. The study included 100 patients of more than 20 years of age, admitted in surgical unit -1 with clinical diagnosis of incomplete indirect inguinal hernia. Patients were randomized to Bassini or Moloney's darn repair. These patients were divided in two groups on the basis of method of repair of hernia.

In one group of 50 patients, Moloney's Darn was done and in other group of 50 patients, Bassini repair was performed. The patients were selected on the basis of clinical examination and routine laboratory investigations. Patients with contraindications for general anaesthesia, coagulation problems and those presenting with strangulated and obstructed hernia were excluded from the study.

RESULTS

In our study, Total of 100 patients were divided in two groups on the basis of hernia repair method adopted. Fifty patients underwent Moloney's Darn repair and the other 50 underwent Bassini repair with prolene. Age, site of hernia, post operative complications especially early recurrence are the variables studied. Amongst the age incidence most of the patients presented were in 20-40 yrs age group (65 patients) 64% having predominantly right sided inguinal hernia and 88 % had reducible inguinal hernia.

Table-l. Distribution of patients by age groups

Age	No. of pts	%age
20-30 yrs	36	36%
31 -40 yrs	29	29%
4 1-50 yrs	18	18%
>50 years	17	17%

Table-ll. Site of Hernia		
Site	No. of pts	%age
Right	64	64%
Left	36	36%
Total	100	100%

Table-Ill. Mode of presentation		
Mode of presentation	No. of pts	%age
Reducible	88	88%
Irreducible	12	12%
Total	100	100%

No patients developed recurrence in three month follow up period. In six months follow up, only one patient with Bassini repair developed recurrence.

Table-IV. Comparison of post operative pain		
Operative procedure	No of pts having pain	%age
Moloney's Darn repair	6	12%
Bassini Repair	10	20%

Table-V. Comparison of haematoma formation		
Operative procedure	No of pts having haematoma	%age
Moloney's Darn, repair	1	2%
Bassini Repair	2	4%

Table-VI. Comparison of wound infection		
Operative procedure	No. of pts having wound infection	%age
Moloney's Darn repair	1	25%
Bassini Repair	3	6%

Table-VII. Comparison of early recurrence			
Operative procedure	Recurrence after 3 months	Recurrence after 6 months	%age
Moloney's Darn repair	-	-	-
Bassini Repair	-	1	2%

Table-VIII. No. of patients lost in follow up			
Operative procedure	After 3 months	After 6 months	Total
Moloney's Darn repair	4	5	9
Bassini Repair	5	7	12

DISCUSSION

Strength of the posterior wall of inguinal canal is an important factor that prevents herniation process. But, if the aponeurotic element in the posterior wall is absent then the transversalis fascia alone cannot withstand the repeated internal blows (raised intra -abdominal pressure) for a longer period. Strong musculo-aponeurotic structures around the inguinal canal still give protection to prevent the herniation in such individuals. But if the muscles are weak then it fails to give such protection. The weak and physiologically inactive posterior wall of inguinal canal in such individuals leads to hernia formation. Success of operative techniques will be assessed by the rate of recurrence of hernia, If it occurs within six months, it may be due to technical error or selection of inferior procedure[4] Maximum

recurrence occurs in first six months post operatively[5].

Therefore, the aim of hernia repair should be to provide a strong, mobile and physiologically active posterior wall of the inguinal canal and this also prevents the recurrence.

Halsted6 and others warned of the danger of the tension on the suture line and stated-that "no tension" as one of the greatest principles of surgery[7] All those authors advised incision or excision of the transversalis fascia requiring extensive dissection[7].Amid et.al[8] reported that, to use already weakened muscles and transversalis fascia, particularly under tension, is a violation of the most basic principles of surgery. Hay et al[9] compared the Shouldice to the Bassini and Cooper's ligament repair. In a study of 1578 hernias, a recurrence rate of 6% was found over 8.5 years compared with Bassini 8.6 %, and in Cooper's ligament repair 11%.Panos et.al[10] and King north et.al[11] stated that the reported recurrence rates from smaller hospitals and ordinary general surgeons seem to be worse than those from specialist centers such as the Shouldice or Lichtenstein clinics.

Obviously those open hernia operations described by original authors don't satisfy all the criteria of modern hernia surgery and modifications of those operations failed to give the desired results particularly in the hands of junior or average practicing general surgeons who were no experts in hernia repair. The posterior wall provided in those operations, is mobile and physiologically active. But recurrence takes place if muscles are weak and it fails to give strong posterior wall.

In one paper 308 cases of inguinal hernia that were operated in the General Surgery Department of the Faculty medicine Istanbul from 1989 to 1991 have been collected. The management techniques are as follows. Bassini repair due in patients 61, Mcvay repair [37], Shouldice repair in 56, Darn repair method in 132, with graft repair in 8 and high ligation in 11. Patients no recurrence has been reported among 132 hernias which were repaired by the darn method. Post operative hospitalization is a two day period for all of the cases except four of them. It was concluded that the prolene darn method was superior to all other techniques[12].

In department of surgery, Seth G.S. Medical college and K.E.M. Hospital, Parel, Mumbai, a total of 50 cases (age group 18-40 yrs) were randomized to two groups(SR25,DR25).These were well matched for age, the side and the type of hernia. Both groups were studied with respect to operative time, post operative pain at 6,12 and 24 hrs (evaluated by pain scale 1-10) need for analgesia, ambulation(evaluated by a four-point scale),complications and return to work. Results were that the Shouldice repair required a longer time (average 81 minutes) compared to Darn repair (average 43 minutes) Patients undergoing Shouldice repair complained of pain of a higher scale at 6,12 and 24 hrs post surgery and had a significant higher need for analgesia on day 1 and 2($p<0.05$).

Ambulation grades were significantly better in the Darn repair group on the first post operative day ($p<0.05$).There was no significant difference in two groups with respect to post operative complications, return to work, and recurrence rate (Two years follow up).The conclusion of the study was that Shouldice repair and darn repair are comparable for young patients having a primary hernia. However, darn repair is superior ion terms of the time taken, post operative pain, need for analgesia and early ambulation13. Kings worth, Gray and Nott[14] reported a 4.6%recurrence after the Shouldice repair and 2.3% after the Bassini repair, with a median follow up of only 24 months. Panos and colleagues[10] reported 6.6 % recurrence rate with the Shouldice technique compared with 8.8% with (Cooper's ligament technique) Mcvay repair. The

median follow up was 36 months. In a recent multicenteric French study, which reported the repair of 1647 hernias over 5 years with a median follow up of more than 5 years, recurrence at 8 years occurred less often after Shouldice repair than Bassini or a Cooper's ligament technique(6.1v. 8.6v. 11.2%) but was many times greater than that of the Shouldice Clinic.

Besides the surgical and anaesthetic techniques used, the rate of recurrence also depends on the quality of follow up of patients including duration of follow up(median and range),rhythm and modality of follow-up examinations, qualifications of the person performing the examination and percentage of patients lost follow-up[16].

With modern techniques and efficient training regarding hernial repair, recurrence rate has considerably decreased[9]. A surgeon is more likely to detect recurrence than is a family physician or the patient, since many recurrences are asymptomatic.

CONCLUSION

Bassini repair and Moloney's darn repair are comparable for young patients having primary hernia. However, Moloney.s darn repair is superior in terms of post operative pain, need for analgesia and early ambulation. It is concluded that Moloney's darn method is superior to Bassini techniques in terms of cost effectiveness, minimum hospital stay, post operative complications, return to work and above all recurrence rate which is nil in cases operated by Darning method up to six months of follow up as observed in this study.

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