INGUINAL HERNIA REPAIR BY DARNING

BinBisher Saeed A. MD, FICMS Barabba Rabea MD, JBS

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INTRODUCTION

Inguinal hernia repair is one of the commonest surgical procedures and is an important training operation for young surgeons. It has technical challenge. There are conflicting reports on the results of hernia repair by trainee surgeons compared with

experienced surgeons [13]. The recurrence rate in inguinal hernia surgery performed by expert hernia surgeon or carried out in centers with the special interest in such repair is <2% , but in the hands of average or junior surgeons the reported recurrence rate is as high as 25%[1].

The high incidence of inguinal hernia make its repair the most frequent procedure in general surgery[2]. .In the last few decades many techniques for hernia repair have been published. Currently polypropylene and Dacron mesh are the most satisfactory since they are ready available and become well incorporated by connective tissue [3]. Maloney achieved recurrence rates as low as 0.8% with inguinal darning repair [4] Abrahamson was the first to point out the defects that could lead to high recurrence rates in darn repair. His series of >1000 repairs reported in 1995 recorded recurrence rates as low as o.8 % [5]. Recently Omer Farooq in 2005 reported 0.6% recurrence rates with darn repair [6]. Prolene mesh is not easily available in our field and relatively costly; therefore increase the cost of operation. In this series, we preferred darning repair because is easily available sutured material, has limited reaction and acceptable recurrences rates.

Patient& method

This hospital-based study was conduct at Ibn Sina teaching hospital in Mukalla in Yemen during 3-years period from 1 February 2002 to 31 January 2005. We used descriptive analysis to determine all cases of inguinal hernias, which had been treated surgically by using darn repair, and to evaluate the use of this method according to

type and site of inguinal hernia. Difference of proportion between age groups were determined, the p-value was based on Chi square test for goodness of fit considering p-value less than 0.05 to indicate statistical significance. Patients were underwent surgical operation using Malony's darning repair of inguinal hernia by prolene No1.

Early post-operative complications specially recurrence rate had reported. Follow up of operative patients was done after 7 days, where skin stitch removed, 1,2 months and one year later.

No patient selection has used for the surgical procedure; patients with bilateral hernias were operated on both sides at same time and all patients received spinal anesthesia.

Result:

The maximal sample size used for this study was 120 cases. These cases were distributed according to age groups as shown in table one. The mean age at diagnosis of inguinal hernia was 35 ± 5years, and ranged between 25and 60 years of age. This table shows that around 2/3 of admitted cases 66.7% of cases were diagnosis at the age between 25and 44 years old.

Chi squared goodness of fit test was 26.6 under degree of freedom 3 the p-value was 0.001(significant). Null hypothesis Ho was rejected. This result indicated that the observed values were not in agreement with expected values. In other words, not all age groups were equal and the incidence of inguinal hernia was larger among younger patients (25-34) than older.

Table 1: Distribution of inguinal hernia according to age groups

Age group	Observed frequency of cases (%)	Expected frequency
25-34	50 (41.7)	30
35-44	30 (25)	30
45-54	30 (25)	30
> 55 -	10 (8.3)	30
Total	120 (100)	120

Table 2 shows cross tabulation of inguinal hernia cases according to two variables, site and type of hernia that has been operated using darning repair. Seventy of operated cases were indirect hernia, while eighty-five of operated cases were at right side. Five of operated cases were bilateral and direct.

Using Chi square test for comparison between two proportions was 0.86 under degree of freedom of one. P-value was >0.05 (non-significant). The interpretation of this result is that there was no association between site and type of hernia among those cases of hernia, which has been operated using daring repair.

Table 2:

Distribution of inguinal hernia cases in contingency table 2x2 for type and site

Side / Type	Rt. Side	Lf. Side	Total
Direct hernia	35	20	55
Indirect hernia	50	20	70
Total	85	40	125

One patient of bilateral inguinal hernia exhibited recurrence on the right side after approximately one-year .which re-operated and placing prolene mesh. Four patients had superficial skin infection (SSI) that subsides within 5 days by IV antibiotic and dressing. Only one patient developed haematocele, which was drained on the third post-operative day, with overall complications was 4.8% as shown on table 3.

All patients were discharged on the 4th post-operative day except the above mention complications which were discharged on the end of first week with median hospital stay of 3 days.

Table 3: postoperative complications.

Complications	No	%
recurrence	1	0.8
SSI	4	3.2
Haematocele	1	0.8
Total	6	4.8

Discussion:

Inguinal hernia repair is one of the most common general surgical operations with a rate of 10 per 10,000 in the United Kingdom each year [9]. The science of groin herniorrhaphy has evolved greatly over the last twenty years [7]. Inguinal hernia surgery has changed dramatically over the past 10 years. One of the principle aims for hernia surgery in the modern era has been to lower the recurrence rate [12]. There have been many developments by surgeons such as Halsted, McVay, Maloney and Shouldice since Bassini"s pioneering work in 1887.Their aim to teach the principles of repair so that the "average" surgeon may attain acceptable recurrence rates. It appears that general surgeons may have recurrence rates of 5-10% while more dedicated surgeons have rates of 1-2%. The challenge is for the general surgeons to attain rates of <1-2% and the surgeon must choose the repair he/she is most comfortable with [7].However recurrence of hernia has been reported to occur in 15% or more

cases[10]. The primary outcome parameter after inguinal hernia repair has usually been the risk of recurrence and re-operation[11]. Open inguinal hernia repair with a nylon darn technique was equivalent to polypropylene mesh with respect to the early measure of postoperative outcome and recurrence at one year [8]. In our study, the recurrence rate was 0.8% this happen in old patient, which has bilateral and recurrent right inguinal hernia, which was replaced by mesh. Therefore, the hernia in old age group special the recurrent type is recommended to be repaired by prolene mesh while the primary to be repaired by darning method. Which has acceptable recurrent rate, with less tension on suture line and it reduce the cost incurred in the use of the mesh. However, comparable outcome achieved with the darning procedure it costs about half that of mesh repair. This cost effective aspect of the darn, places it at a more favorable position, and cost play important role when works in developing country with limited income.

A long-term follow up is desirable and is in progress to judge the efficacy of darning repair technique in terms of recurrence and cost effectiveness.

Conclusion:

Darning repair has limited post-operated complications, low recurrence rates, cheep cost and represent a good alternative to the (gold standard) Lichtenstein mesh repair for primary inguinal hernia especially in poor countries.

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