

Comparison the Rate of Complications Between Mesh and Darn Repair in Inguinal Hernias

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Complications
Between Mesh
and Darn Repair
in Inguinal
Hernias

ABSTRACT

Objective: To compare the rate of complications especially of recurrence in inguinal hernias treated with mesh repair and darn repair.

Study Design: Prospective/randomized control trial study.

Place and Duration of Study: This study was conducted at the Department of Surgery Unit-I, Bolan Medical College Quetta from November 2017 to December 2018.

Materials and Methods: A total of 86 patients had ages 19 to 65 years were included. Patients were divided into two groups. Forty three patients were treated with mesh repair of inguinal hernia and 43 were treated with darn repair procedure. Complications were recorded and compared between two different techniques, such as surgical site infection, length of hospital stay and recurrence of inguinal hernias.

Results: There were 18 (20.93%) patients had ages <30 years, 22 (25.58%) patients ages between 30 to 40 years. 23 (26.74%) patients had ages 41 to 50 years and 23 (26.74%) patients above 50 years. Surgical site infection (superficial), 1 found in 4 patients in mesh repair group and in 3 patients in darn group. Length of hospital stay was high in mesh group as compared to darn repair group. Recurrence of inguinal hernia found in 2 patients in mesh group while in 5 patients in darn group.

Conclusion: Mesh repair technique is had less rate in recurrence of inguinal hernias as compared to darn repair technique.

Key Words: Inguinal hernias, Mesh repair, darn repair, Recurrence

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INTRODUCTION

Inguinal hernia is the most frequent disorder found in surgical departments and rated 25% in males and 2% in females.¹ Many of researches illustrated that the prevalence of this malignant disorder is high in older age and rated 50% yearly.² In US inguinal hernia repair is the most frequent performing surgical treatment and yearly approximately 0.6 million cases treated.³ This intervention puts the highest burden on health care system.⁴ During last 10 years many of procedures used for the treatment of inguinal hernia but the recurrence rate is still high and rated 15 percent.⁵ In 1987, Lichtenstein introduce the mesh technique for repairing the inguinal hernia. This useful and effective procedure shows better results regarding pain and recurrence rate.^{6,7}

Worldwide, polypropylene mesh technique for inguinal hernia repairs taking as a gold standard because of its better surgical results and less complications rate. Lichtenstein mesh technique is the world most common performing procedure and this method is now method of choice.⁸ However, in many under developed countries Bassini procedure is still using due to limited health care facilities and procedural cost.⁹ Polypropylene mesh technique reduces the prevalence of chronic groin pain and other complications.¹⁰ The use of absorbable meshes like lactic acid polymer and glycolic acid copolymer is very useful procedure to reduce the complications. This exposes the patient to inevitable hernia recurrence because the inflammatory response, through a hydrolytic reaction completely digests the implanted prosthetic material.^{11,12} A prosthetic mesh repair technique for inguinal hernia is a very useful and better treatment modality and reported less than 5% recurrence rate.^{13,14} For synthetic mesh repairs many studies have noted their association with numerous complications, including persistent pain, infection, adhesions, bowel erosion, shrinkage, and inflammation.^{15,16} Our objective was to compare the complications in Lichtenstein repair with tension free Darn repair. We also looked at the surgical site infections, length of hospital stay, time taken to return to normal routine and recurrence of hernia.

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MATERIALS AND METHODS

This study was conducted at Department of Surgery Unit-I, Bolan Medical College Quetta from 15th November 2017 to 31st December 2018. This study comprised 86 patients had ages 19 to 65 years were included. Patient's detailed medical history was examined after taking informed consent from all the patients. Patients with recurrent inguinal hernia, having ASA class IV and above, patients with other abdominal surgery were excluded from this study. Patients were divided into two groups Mesh repair and Darn repair. 43 patients were treated with mesh repair of inguinal hernia and 43 were treated with darn repair procedure. ASA class, smoking history, diabetes mellitus and site was recorded as baseline characteristics of all the patients. Complications were recorded and compared between two different techniques, such as surgical site infection, length of hospital stay and recurrence of inguinal hernias. Statistical data was analyzed by SPSS 19.

RESULTS

Out of 86 male patients 18 (20.93%) patients had ages < 30 years, 22 (25.58%) patients were ages between 30 to 40 years. 23 (26.74%) patients had ages 41 to 50 years and 23 (26.74%) patients were ages above 50 years (Table 1). Baseline clinical examination was recorded as ASA class I and II,

Table No.1: Age-wise distribution of all the patients (n=86)

Age (years)	No.	%
<30	18	20.93
30-40	22	25.58
41-50	23	26.74
>50	23	26.74

Table No.2: Clinical examination of patients of each group

Characteristics	Mesh Repair (n=43)	Darn Repair (n = 43)
ASA Class		
I	29(67.44%)	30(69.77%)
II	14(32.56%)	13(30.23%)
Controlled DM	6	10
COPD	5	5
Smoking history	19	21
Site		
Right	19	20
Left	9	8
Bilateral	8	7
Direct	7	7

Control diabetes mellitus, COPD, smoking history, surgical site (Table 2). Surgical site infection (superficial) found in 4 patients in mesh repair group and in 3 patients in darn group. Deep surgical site infection found in 2 patients treated with darn repair technique. Length of hospital stay was high in mesh

group as compared to darn repair group. Recurrence of inguinal hernia found in 2 patients in mesh group while in 5 patients in Darn group (Table 3).

Table No.3: Complications recorded in both groups

Variable	Mesh Repair	Darn Repair
Surgical site infection		
Found	4 (9.30%)	3(6.98%)
Not Found	39 (90.70%)	40 (93.02%)
DSSI		
Found	1 (2.33%)	2(4.65%)
Not Found	42 (97.67%)	41 (95.35%)
Recurrence		
Found	2(4.65%)	5(11.63%)
Not Found	41 (95.35%)	38(88.37%)
Hospital Stay	3-15 Days	3-5 days

DISCUSSION

Worldwide, repair of inguinal hernias is the second most common performing surgical procedure after appendectomy and accounted 11-16%.¹⁷ In 1887 the Bassini's repair technique was introduced and till that many operative methods have been used for repair of inguinal hernias but there is no definitive technique is considered as the bestmethod.¹⁸ The material used remains controversial. Now a days many of techniques applying for repairing the inguinal hernias to gain the better results and tension free procedure and to provide the better treatment, from those procedure Mesh repair reported as the best procedure to achieve the better results.^{19,20}

In mesh repair group the most common age groups was 30 to 50 years and there was no significant difference found in both groups regarding age. These results shows similarity to some other studies conducted in Pakistan.²¹

In the present study, we found that surgical site infection (superficial) found in 9.30% patients in mesh repair group and in 6.98% patients in darn group. Deep surgical site infection found in 2 patients treated with darn repair technique. There was no haematoma found in our study in both groups. A study conducted by Shilcutt et al²² in which hematoma was 4.4% and surgical site infection was 1.7%. Many other studies regarding repair of inguinal hernias illustrated different rates of complication.²³

In this study, the recurrence of inguinal hernia in mesh group was 4.65% and in Darn repair group it was 11.63%. These results shows similarity to some other studies in which recurrence rate in Mesh group was 3 to 5% and in Darn group was 8 to 12%.^{24,25} There was no significant difference was observed except recurrence in both groups of the present study.

CONCLUSION

Repair of inguinal hernia is the most common surgical procedure performed all over the world and different modalities are used to attain better outcomes. In our study, it is concluded from this study that Mesh repair

technique is had less rate in recurrence of inguinal hernias as compared to darn repair technique. Hospital stay was higher in mesh group than darn group. Moreover, there was no significant difference was observed regarding wound infection.

Author's Contribution:

Concept & Design of Study: Naseebullah Zarkoon
 Drafting: Mohyuddin Kakar
 Data Analysis: Samina Karim
 Revisiting Critically: Naseebullah Zarkoon,
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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