

Comparison Of The Effectiveness Of The Modified Bassini Repair, The Shouldice Repair, The Lichtenstein Repair

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Abstract: Introduction: Despite the variety of procedures performed for Hernia, none can be termed as an ideal procedure as each one is having its early and late complications the most significant being recurrence. This study compares the effectiveness of 3 different hernia repairs viz Modified Bassini, The Shouldice & Lichtenstein repair regarding morbidity & recurrence.

Patients & Methods: 100 cases of inguinal hernia admitted between June 2018 to May 2019 were taken. The data was collected prospectively and analyzed by using non-probability sampling method. Chi-square test, Independent samples T test were employed in the present study.

Results: 100 cases taken for analysis. In the present study 30% of repairs were the Modified Bassini repair & the 41% Lichtenstein repair while 29% of repairs were the Shouldice repair.

Severe pain was complained in 28% cases of the Shouldice repair, postoperative wound infection developed in 2% of cases of the Modified Bassini repair, haematoma at the operated site was found in 2% of cases who underwent the Shouldice repair. Recurrence was noted for 2 cases who underwent the Modified Bassini repair.

Conclusion: It can be concluded that except for a higher intensity of pain complained in the tissue repairs & for the recurrence in the Modified Bassini repair, all the three procedures are comparable but need to be followed up for years to conclude on the long term effects. There is no universal repair for groin hernia. All the techniques will have hard proponents as well as opponents.

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I. Introduction:

There are many operations available in the field of General surgery. Among all other surgeries hernia repairs have been written about repeatedly. The modifications that have been taking in open approach surgeries, prosthetic materials, laproscopic surgeries have made hernia surgery a most interesting field of study.

Despite the variety of procedures performed for hernia, none can be termed as an ideal procedure, as each one is having its early & late complications, the most significant being recurrence.

This study compares the effectiveness of 3 different hernia repairs viz the Modified Bassini, the Shouldice repair, the Lichtenstein repair regarding morbidity and recurrence rates in relation to standard published material.

II. Patients And Methods:

The study was conducted on 100 cases of inguinal hernia admitted in Government General Hospital, under Rangaraya Medical College, Kakinada between June 2018 to May 2019.

Among these, patients with direct and indirect inguinal hernia, uncomplicated hernia, hernias treated with open approach surgeries were included. Patients <14 years of age with inguinal hernia, recurrent hernias, complicated hernias, hernias treated with laproscopic approach were excluded from the study.

The data was collected prospectively and analysed by using non-probability sampling method. The data includes age, sex, occupational status, symptoms of the patient, duration of symptoms, precipitating factors like BPH, COPD, Constipation, strenuous work and associated illness like HTN, DM, IHD, & personal history like smoker and non-smoker.

The diagnosis of inguinal hernia was made by clinical examination. Pre-anesthetic evaluation has been done. The type of anaesthesia used for patients in this study was spinal anaesthesia.

The patients were randomly chosen for 3 different hernia repairs viz the Modified Bassini repair, the Shouldice repair, the Lichtenstein repair. A single dose of preoperative broad spectrum antibiotic was given & followed up to 3 days postoperatively. Analgesic injection Diclofenac sodium was given 2 or more days as per requirement postoperatively.

After surgery all patients were monitored carefully for pain, bleeding, & wound infection. Pain was assessed using verbal graphic scale. Wound infection ranging from minimal discharge of pus from a single stitch to extensive and invasive process requiring prolonged hospital stay & intravenous antibiotics therapy. Bleeding was defined as subcutaneous haematoma.

The patients were discharged. Patients were followed up for 15 days, 1 month, 3 months, 6 months. All were followed up for post operative pain, interference with daily living, use of analgesics & recurrence.

III. Results:

Following statistical methods were employed in the present study.

Chi-square test Independent sample T test. In 100 cases of inguinal hernia 96 were males & 4 were females, with the mean age of 41-50 years. The other data occupational status, symptoms, duration of symptoms

Age and Sex Distribution

Age groups	Sex		Total
	Male	Female	
21-30	18	-	18 (18.0%)
31-40	21	3	24 (24.0%)
41-50	27	-	27 (27.0%)
51-60	9	-	9 (9.0%)
61-70	16	1	17 (17.0%)
>70	5	-	5 (5.0%)
Total	96	4	100 (100.0%)

: Personal History

History	Frequency	Cumulative Percentage
Smoker	27 (27.0%)	27.0
Non-Smoker	73 (73.0%)	100.0
Total	100 (100.0%)	

Precipitating Factors

Factors	Frequency
BPH	2 (3.2%)
COPD	4 (6.5%)
Constipation	2 (3.2%)
Strenuous work	32 (51.6%)
BPH and Str. Work	5 (8.1%)
COPD and Str. Work	10 (16.1%)
Constipation and St. Work	7 (11.3%)
Total	62 (100.0%)

Abdominal tone

Illness	Frequency
Good	73 (73.0%)
Poor	27 (27.0%)
Total	100 (100.0%)

Types of Hernia

Factors	Frequency
Right-indirect	34 (34.0%)
Right-direct	16 (16.0%)
Left-indirect	23 (23.0%)
Left-direct	11 (11.0%)
Pantaloon	6 (6.0%)
Bilateral	10 (10.0%)
Total	100.0 (100.0%)

: Types of Surgery

Surgery	Position		Total
	Right	Left	
Modified Bassini	17	13	30
Shouldice	15	14	29
Lichtenstein	22	19	41
Total	54	46	100

: Postoperative Pain

Surgery	Postoperative pain				Total
	No pain	Mild	Moderate	Severe	
Modified Bassini	1	11	17	1	30
Shouldice	-	4	18	7	29
Lichtenstein	7	23	10	1	41
Total	8	38	45	9	100

: Wound infection and Haematoma

Surgery	Infection	Haematoma
Modified Bassini	2	-
Shouldice	-	2
Lichtenstein	1	-
Chi-square	0.40	0.33
p	0.819	0.564

Duration of Hospitalization

Surgery	Duration of Hospitalization				Total
	1-3 days	4-6 days	7-9 days	>9 days	
Modified Bassini	-	11	18	1	30
Shouldice	-	7	19	3	29
Lichtenstein	1	19	18	3	41
Total	1	37	55	7	100

Recurrence Rate

Surgery	Recurrence
Modified Bassini	2
Shouldice	-
Lichtenstein	-
Chi-square	0.31
P Value	0.623

IV. Discussion:

Age: In a study by Ira M. Rutkow, the age at presentation was as follows. It is compared with present study.

Age (years)	Present Study	Ira M.Rutkow
<15	-	18
15-44	46	26
45-64	38	30
>65	16	26

The age incidence of the present study does not match with the above study and may be because the farmers and labourers who form the major occupational group in the present study start hard manual work at a younger age. This may : **Comparison of Sex:**

sex incidence in the present study with standard Literature

Sex	Our Study	Ira M.Rutkow	Martin Kurzer
Male	96%	90%	97%
Female	4%	10%	3%

explain the early onset of hernia in our study

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