

## A Study On Comparison Of Repairs Of Large Direct Inguinal Hernia's With And Without Tanner's Muscle Slide Incision

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### Abstract

**Aim:** This study compares two approaches to hernia repairs, Tanner's approach versus conventional repair, in a tertiary care set up. The study compares these two techniques regarding ease of surgery, duration of surgery, post operative complications and recurrence

**Methods :** A total of 52 patients undergoing elective inguinal hernia repair were divided into two intervention groups of 26 each - patients who had tanners muscle slide down technique and groups without tanners muscle slide down technique. In our study age, gender, side of hernia presentation, duration of hernia, hernial content, complication and recurrence are analysed between the tanner's group and without tanner's group.

**Results:** The majority in with tanner's group were in 41-50 years age group (34.62%) with a mean age of 60.42 years. Similarly in without tanner's group majority were in 51-60 years age group (34.62%) with a mean age of 64.73 years. ( $p=0.1322$ ) which is statistically insignificant. It is evident from the results that majority in with tanner's group were in 41-50 and 51-60 minutes surgery duration group (65.38%) with a mean surgery duration of 48.46 minutes. Similarly in without tanner's group majority were in 41-50 minutes surgery duration group (42.31%) with a mean surgery duration of 53.04 minutes. ( $p=0.0253$ ), which is statistically significant. In relation to complications, there is statistically insignificant association between complications status and hernioplasty repairs procedures for large direct inguinal (tanner's procedure and conventional without tanner's procedure)  $p > 0.05$ . The majority in with tanner's group were in less than 5 days postoperative hospital stay duration. In without tanner's group majority were in 6-10 days postoperative hospital stay which has statistically significant association between postoperative hospital stay distribution status and hernioplasty repair procedures for large direct inguinal (tanner's procedure and conventional without tanner's procedure) ( $p < 0.05$ ). Tanner's group had a mean VAS pain score of 2.35, 1.46 and 0.85 at 1 hour, 6 hours and 24 hours postoperative respectively. Similarly in without tanner's group majority had a mean VAS pain score of 3.96, 2.15 and 1.23 at 1 hour, 6 hours and 24 hours postoperative respectively. (1 hour -  $p = < 0.05$ ). hence had significant association. Tanner's and without tanner's group did not have recurrence (100%) ( $p=0.1066$ ).

**Conclusion:** It is concluded that tanner's group had shorter duration of hernia surgery, shorter duration of postoperative hospital stay, lesser postoperative pain till 6hrs and higher patient satisfaction.

**Keywords:** Large direct inguinal hernia's, tanner's muscle slide incision, hernioplasty.

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### I. Introduction

"HELIODORUS"-surgeon who performed the first hernia operation. "AULUS CORNELIUS CELSUS"- first writer to write detailed description of hernia surgery in 50 AD. In 18th century great anatomist and surgeons described the age of dissection, was done by "PASTON COOPER", "FRANZ K HENELBACH", "DON ANTONIO DE GIMBERNAT" "JEAN LOU PETIT" they described detailed anatomy which lead to modern in hernia repair. "BASSINI'S" (1844-1924) described the posterior wall strengthening of the inguinal wall and high ligation of sac with anatomical reconstruction. Later his techniques are modified therefore he is rightfully called as FATHER OF THE MODERN HERNIORRHAPHY. "HALSTEAD" (1852-1922) developed a BASSINI'S technique modification. A Canadian surgeon "SHOULDICE" (1960) described over lapping layers with continuous sutures. Tensio free repairs (LICHENSTEIN) described strengthening of posterior wall with MESH with very low recurrence rate. Mesh introduced by "ÜSHER". Laparoscopically "GER" did first repair, TAPP in 1991 by ÄRREGUI and TEP by PHILIPS.

## **II. Materials And Method**

**AIM AND OBJECTIVE:** This study compares two approaches to hernia repairs, Tanner's approach versus conventional repair, in a tertiary care set up.. The study compares these two techniques regarding ease of surgery ,duration of surgery , post operative complications and recurrence

### **STUDY AREA :**

Department of General Surgery, Kilpauk Medical College and Research Institute, Chennai.

### **STUDY POPULATION:**

Total sample size N = 52 .

Divided into 2 study groups :

- Group "with Tanner's" (N=26) – Elective inguinal hernia repair with tanners muscle slide down technique
- Group "without Tanner's" (N=26) - Elective inguinal hernia repair without tanners muscle slide down technique

### **INCLUSION CRITERIA:**

- Patients aged 40-75 years
- Male Gender
- Patients with large and difficult Direct Inguinal Hernia
- Patients with defect of size > 2.5 cm
- Patient without co-morbidity (TB ,HT , DM, Bronchial asthma, seizure)

### **Exclusion Criteria**

- Patients with co-morbid conditions like immune compromised patients, patients on cancer chemotherapy, immunotherapy and on long term steroids.
- Patients with recurrent inguinal hernia
- Patients with complications like obstruction, strangulation, incarceration, bilateral inguinal hernia.

**STUDY PERIOD:** Study Period January 2017 to June 2017

### **SAMPLE SIZE:**

52

### **STUDY DESIGN:**

Single Blind Randomised Control

Method:

Our study compares the following

In our study age, side of hernia ,duration of hernia, complication,ease of surgery,duration of hospital stay and recurrence are analysed between the tanner's group and without tanner's group.

Surgical Procedure :

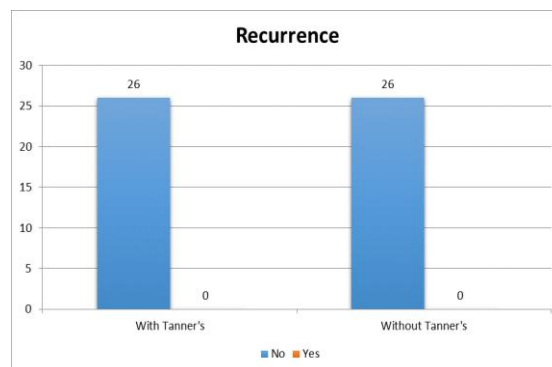
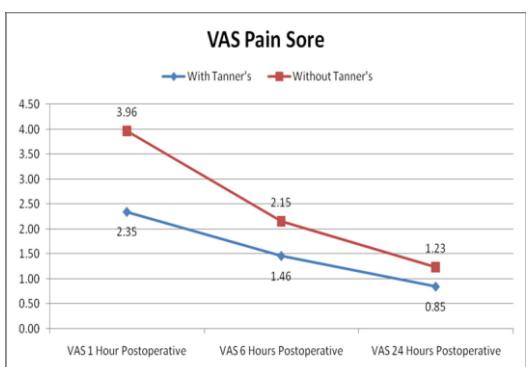
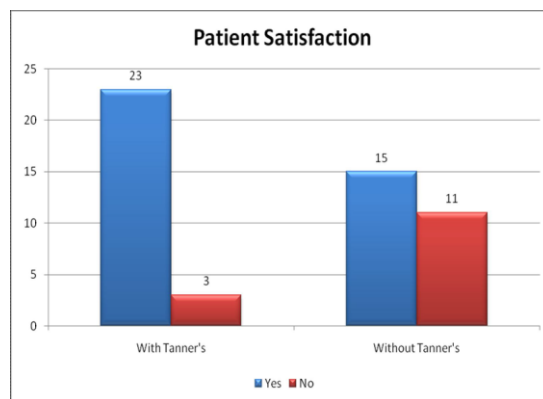
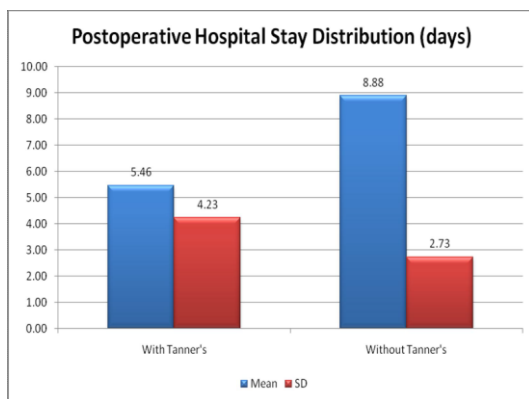
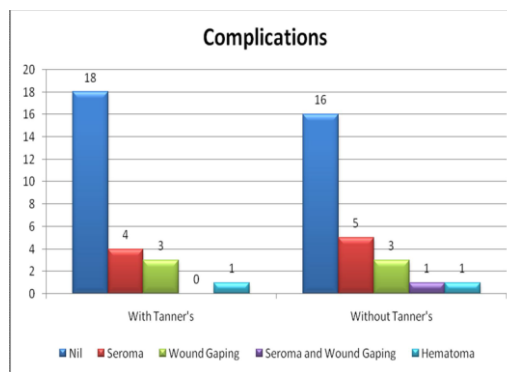
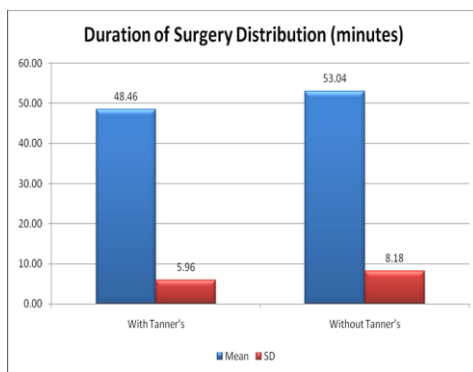
Tanner slide with darning repair After doing standard herniotomy, upper leaf of external oblique was retracted upwards, and a 3 centimeter incision made over internal oblique and rectus sheath, and then continuous Vicryl single '0' sutures from public tubercle to conjoint tendon, arching fibers of internal oblique 56 to cooper's ligament, up to deep inguinal ring and then sutures were crisscrossed from lateral end to medial end; darning appeared like mini mesh. Cord reposed and wound closed as mentioned in Bassini's repair

## **III. Results**

The majority in with tanner's group were in 41-50 years age group (34.62%) with a mean age of 60.42 years. Similarly in without tanner's group majority were in 51- 60 years age group (34.62%) with a mean age of 64.73 years. (p=0.1322) The data subjected to statistical unpaired t test reveals the existence of statistically insignificant association between age distribution

84.62% of the study subjects in with tanner's group had right sided large direct inguinal hernia compared to 15.38% having left sided hernia. In without tanner's group 88.46% of the study subjects had right sided large direct inguinal hernia compared to 11.54% having left sided hernia. (p= >0.9999)It is evident from the results that majority in with tanner's group were in 41-50 and 51-60 minutes surgery duration group (65.38%) with a mean surgery duration of 48.46 minutes. Similarly in without tanner's group majority were in 41-50 minutes surgery duration group (42.31%) with a mean surgery duration of 53.04 minutes.(p=0.0253),which is statistically significant.In relation to complications, seroma was the main complication observed (15.38%) followed by wound gaping (11.54%) in with tanner's group. In without tanner's group seroma was the main complication observed (19.23%) followed by wound gaping (11.54%). (p= 0.5657). there is statistically insignificant association between complications status and hernioplasty repairs

procedures for large direct inguinal (tanner's procedure and conventional without tanner's procedure)  $p > 0.05$ . The majority in with tanner's group were in less than 5 days postoperative hospital stay duration group (57.69%) with a mean stay duration of 5.46 days. Similarly in without tanner's group majority were in 6-10 days postoperative hospital stay duration group (61.54%) with a mean stay duration of 8.88 days. ( $p=0.0011$ ). It has statistically significant association between postoperative hospital stay distribution status and hernioplasty repair procedures for large direct inguinal (tanner's procedure and conventional without tanner's procedure) ( $p < 0.05$ ). Tanner's group had a mean VAS pain score of 2.35, 1.46 and 0.85 at 1 hour, 6 hours and 24 hours postoperative respectively. Similarly in without tanner's group majority had a mean VAS pain score of 3.96, 2.15 and 1.23 at 1 hour, 6 hours and 24 hours postoperative respectively. (1 hour -  $p = < 0.05$ ). Hence had significant association. Tanner's group did not have recurrence of hernia (100%) and similarly in without tanner's group majority did not have recurrence (100%) ( $p=0.1066$ ). It has statistically insignificant association between hernia recurrence status and hernioplasty repair procedures for large direct inguinal (tanner's procedure and conventional without tanner's procedure) ( $p > 0.05$ )



#### IV. Discussion

In our study age, side of hernia, duration of hernia, complication, ease of surgery, duration of hospital stay and recurrence are analysed between the tanner's group and without tanner's group.

**DURATION OF HERNIA SURGERY** In our study the duration of hernia surgery between with Tanner's group and without Tanner's group was meaningfully significant. This is exhibited by the reduced mean duration of hernia surgery in "with Tanner's group" compared to "without Tanner's" group (4.58 minutes

quicker, 9% less time). Further, Cohen's effect size value ( $d = 0.65$ ) suggested a moderate practical significance (74% study subjects with tanners muscle slide down technique will have shorter duration of hernia surgery as outcome).

**POSTOPERATIVE HOSPITAL STAY** In our study the postoperative hospital stay duration between with Tanner's group and without Tanner's group was meaningfully significant. This is exhibited by the reduced mean duration of postoperative hospital stay in "with Tanner's group" compared to "without Tanner's" group (3.42 days shorter, 39% less time). Further, Cohen's effect size value ( $d = 0.98$ ) suggested a high practical significance (84% study subjects with tanners muscle slide down technique will have shorter duration of postoperative hospital stay as outcome).

**POSTOPERATIVE VAS PAIN SCORE** In our study the postoperative VAS pain score between with Tanner's group and without Tanner's group was meaningfully significant. This is exhibited by the reduced mean VAS pain score postoperatively in "with Tanner's group" compared to "without Tanner's" group at 1 hour (1.62 score points less, 41% less pain) and 6 hour (0.69 score points less, 32% less pain). The Postoperative VAS pain score between with Tanner's group and without Tanner's group at 24 hours was insignificant. Further, Cohen's effect size value at 1 hour ( $d = 2.85$ ) suggested a very high practical significance (99% study subjects with tanners muscle slide down technique will have lesser postoperative pain at 1 hour as outcome). Similarly, Cohen's effect size value at 6 hour ( $d = 0.96$ ) suggested a high practical significance (84% study subjects with tanners muscle slide down technique will have lesser postoperative pain at 6 hours as outcome).

**PATIENT SATISFACTION STATUS** In our study the patient satisfaction status between with Tanner's group and without Tanner's group was meaningfully significant. This is exhibited by the increased patient satisfaction percentage in "with Tanner's group" compared to "without Tanner's" group (30.77 percentage points more, 35% more satisfaction). Further, Cohen's effect size value ( $d = 0.53$ ) suggested a moderate practical significance (70% study subjects with tanners muscle slide down technique will have higher satisfaction as outcome).

## V. Conclusions:

We can conclude that: Age, side of hernia presentation, duration of hernia, complications and recurrence had no statistically significant role to play on elective inguinal hernia repair outcomes between Group "with Tanner's" and group without Tanner's". When surgery related outcomes were matched, the following conclusions was observed in "with Tanner's group" compared to "without Tanner's" group :

- Shorter duration of hernia surgery
- Shorter duration of postoperative hospital stay
- lesser postoperative pain till 6 hours
- higher patient satisfaction

This study is a hypothesis proving study. Hence results have high clinical significance.

## Bibliography

- [1]. Anson, B.J., Beaton, L.E. and McVay, c.b.: The Pyramidalis Muscle, Anat. Rec., 52:405-411, 1938.
- [2]. Farquharson M, Moran B, (2005) Surgery of groin and external genitalia. Farquharson's text book of operative general surgery. Hodder education, London, pp 459-468.
- [3]. Faruoq O, Batool Z, Bashir-ur-Rehman (2005) Prolene darn:safe and effective method for primary inguinal hernia. J Coll Physicians Surg Pak 15: 358-61.
- [4]. Bhatt A, Rasool EM (2002) Darning versus Bassini, s repair in primary unilateral inguinal hernia, J Coll Physicians Surg Pak 12:69 - 71
- [5]. Russel RCG, Williams NS, Bulstorde CJK, (2004) Hernias, umbilicus and abdominal walls. Bailey & Love's short practice of surgery. Arnold , London , pp1274 -1281.
- [6]. Schwartz SI et al., (1999) abdominal wall hernias. Principles of Surgery. McGraw Hill, New York, pp1585 -1611.
- [7]. Zinner MJ et al., (1997) Hernias. Maingot's Operations. Applenton & Lange, USA, pp479 - 580
- [8]. Moloney GE (1958) Results of nylon darn repairs of herniae. Lancet 1 :273. 9. Tanner, N. C.: A "slide" operation for Inguinal and Femoral Hernia, Brit. J. Surg., 29:285-289.

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