

COMPARISON OF MESH AND NON-MESH METHODS OF INGUINAL HERNIA REPAIR IN A TERTIARY CARE SETUP – A TRIPLE BLIND RCT STUDY OVER 2 YEARS PERIOD

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Abstract

Aims:

To assess and compare the efficacy of Desarda's no mesh repair over mesh hernia repair (Lichtenstein repair and Lap hernia repair-TAPP) for the treatment of inguinal hernia, To compare the complications associated with both modalities, To decide on the better treatment for inguinal hernia from the study findings.

Methods and Material:

This prospective randomized study conducted among patients visited Govt Mohan kumaramangalam medical college hospital - a tertiary care centre in Salem, Tamilnadu. Sixty patients with unilateral, primary, reducible inguinal hernia were randomly distributed in to Three groups to undergo hernia repair i.e. Lichtenstein/TAPP and Desarda's. Outcome was measured in terms of mean operative time, acute post-op pain, duration of hospital stay, day of return to normal gait and recurrences.

Results:

Study comprised 40 patients over 50 years of age whereas remaining 35 patients were below 50 years. No statistical difference observed regarding age, sex, type of hernia duration of hernia in both the groups. duration of surgery was 49 minutes in Desarda's group and 54 minutes in Lichtenstein's group and 1hour 15 mins in TAPP group. No surgical site infections in the Desarda's group and TAPP group when compared to Lichtenstein's where there were 3 cases (10%). Complications like scrotal edema, testicular atrophy, foreign body like sensation, loss of sensation over groin were not seen in Desarda's group and TAPP group whereas its occurrence was highly significant ($p < 0.01$) in Lichtenstein's group. Mean hospital stay was 3 days in TAPP group, 4 days in Desarda's group while it was 6 days in Lichtenstein repair among the study group. Over a two year follow up there were no recurrences in all three groups.

Conclusions:

Desarda's no mesh repair is a physiologically sound, easy to learn and simple method associated with less duration of surgery with less post-operative complications and rapid recovery time with an added advantage that it can be performed in contaminated surgical fields and for individuals with financial restraints. Compared to Lichtenstein's repair and trans abdominal pre-peritoneal repair, Desarda's repair hereby produces same or better results.

Key-words: Inguinal hernia, Trans abdominal pre-peritoneal repair(TAPP), Lichtenstein repair, Desarda's repair

INTRODUCTION:

Inguinal hernias by far are the most common types of hernias seen in our tertiary care settings. 1-3 The estimated lifetime risk for inguinal hernia is 27% for men and 3% for women. 4 Inguinal hernia repair is one of the commonest operations done and the choice of a method depends on the surgeon as there were no written surgical guidelines for hernia treatment till 2009. 5-7

SUBJECTS AND METHODS:

This randomized control trial was carried out in Department of Surgery, Govt Mohan kumaramangalam medical college hospital Salem, Tamilnadu from September 2013 to



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September 2015. Seventy five patients with unilateral, primary, reducible inguinal hernia determined by clinical examination were selected. Duration of the repair was started at the beginning of a particular repair technique since incision to suturing, with recording done in minutes. After approval from ethical committee board, patients attended outpatient department were evaluated and the patients fulfilling the inclusion criteria were included in the study after taking the informed consent. Elderly people with thinned out external oblique aponeurosis, pregnant females, children, obese individuals and those with bilateral, recurrent complicated hernia individuals were excluded. All the operations were carried out by same surgical team under regional anaesthesia/local anaesthesia. Included patients were randomly divided into 3 groups using random table i.e., one group in which hernia was repaired by standard mesh (Lichtenstein) second group by Desarda's method and third group by laparoscopic TAPP repair. (25 in Desarda arm, 25 in the Lichtenstein arm 25 in lap mesh repair) The outcome measures were evaluated at 2 weeks, 1 month, 2 months, 6 months, 1 year and 2 years. The collected data was analysed with SPSS 16.0 version. To describe about the data descriptive statistics, frequency analysis, percentage analysis were used for categorical variables and the mean and S.D were used for continuous variables. To find the significant difference between the trivariate samples unpaired sample t-test was used. To find the statistical significance in categorised data chi-square test was used. Probability value 0.05 is considered as significant level.

RESULTS:

Seventy five patients were included in our sampled population with age distribution ranged from 19 to 62 years. With mean age distribution around 48 years. 40 patients (41.7%) were either 50 years of age or above whereas remaining 35 patients (58.3%) were below 50 years of age. Average duration of hernia in Desarda group patients was 7 months whereas in Lichtenstein and lap technique it was 11 months. Mean Operative time for Desarda's no mesh repair was 49 mins (95% confidence interval of the difference lower -7.927; upper -2.940) whereas for Lichtenstein's repair around 54 minutes. (95% confidence interval of the difference lower -7.933; upper -2.933) (p:0.000). Regarding groin pain, in our study patients were classified into those who had pain for <3 days, 3-7 days, >7 days. 70% of the patients in the Desarda group experienced pain only for less than 3 days whereas 46.7% and 33.3% of the patients in Lichtenstein's method

had pain for 3-7 days and more than 7 days respectively 40% patients in the laparoscopic repair experienced pain for 3-7 days. Surgical site infection was higher in mesh repair (10%) when compared to Desarda's technique (0%). Foreign body sensation, Loss of sensation and Abdominal wall stiffness was present in TAPP and Lichtenstein's group. Time taken to return to normal activity was within 7 days in most of Desarda's group (63.3%) whereas it is 7-15 days in 60% of Lichtenstein's group patients and 7-10 days in 40% laparoscopic mesh repair group.

DISCUSSION:

Various studies show that Desarda's technique is associated with lesser duration of surgery and lesser post op complications like groin pain, abd. wall stiffness, duration of hospital stay and time to return to normal activity. Desarda et al showed average duration to return to work in the Desarda's group as 8.26 days whereas it was 12.58 days in the Lichtenstein's group. Also it has showed the chances for recurrence as 1.97% but it was observed over 10 year followup. Our study findings correlates very well with the Desarda et al study findings except for the fact that to identify the recurrence it necessitates large scale and longterm followup.

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