



CLINICAL STUDY ON THE OUTCOMES IN ELECTIVE DIVISION OF ILIOINGUINAL NERVE IN OPEN MESH REPAIR OF INGUINAL HERNIA

General Surgery

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ABSTRACT

Aims and Objectives: To assess the outcome in elective division of ilioinguinal nerve in open mesh inguinal hernia procedures. **Methods:** This study was a prospective observational study conducted on 50 patients with inguinal hernias who were hospitalised in the Department of General Surgery, Narayana medical college and hospital, from January 2022 to June 2023 and underwent Lichtenstein hernia repair for the hernia correction. Patients were divided into two groups, 25 patients having retained their ilioinguinal nerve (Group A), while another 25 patients underwent elective nerve division (Group B). Data such as Age distribution, Sex distribution and at POD-1, one month and three months after surgery patients were assessed using a four-point verbal scale for pain and other sensory complaints. **Results:** A total of 47 out of 50 patients finished the study; 24 patients were in group A and 23 patients were in group B. Results demonstrated that in the nerve excision group, postoperative chronic groin discomfort was less when compared to group A. At POD-1, one month and three months following surgery, group A and B, respectively, had pain 58.3% vs. 52.1%, 54.1% vs. 43.4%, and 50% vs. 39.1%. Both groups experienced neurosensory problems such hypoesthesia and numbness, with no discernible difference between them. **Conclusion:** The incidence of persistent groin discomfort following Lichtenstein hernia repair is reduced without causing any additional morbidities when the ilioinguinal nerve is surgically divided as a preventative measure. Therefore, ilioinguinal neurectomy has better outcomes in hernia surgery.

KEYWORDS

Ilioinguinal nerve, Lichtenstein and Inguinal hernia

INTRODUCTION:

A hernia is the term used to describe any viscus that protrudes from its normal cavity. A membrane that the cavity is naturally invested with often holds the protruded pieces in a bag.

— Sir Astley Cooper, 1804.

One of a general surgeon's most frequent procedures is hernia repair. However, because of side effects such as nerve damage, infection, postoperative pain and recurrence, no surgeon achieves the best results after hernia repair.

Groin discomfort following a hernia repair that lasts longer than three months is referred to as chronic post herniorrhaphy pain. According to research done between 1987 and 2000, 10% of individuals experienced chronic groin pain following herniorrhaphy on average moderate to severe discomfort. The incidence of long-term (1 year) postoperative neuralgic discomfort following Lichtenstein surgery of inguinal hernia ranged from 6 to 29%.

Chronic groin discomfort following hernia repair is best described as *inguinodynia*. Inguinal hernia surgeries are not the only ones that routinely involve neurectomy. When the intercosto-brachial nerve and neck are involved in axillary dissections are frequently performed.

Long-term post-herniorrhaphy neuralgia is a bothersome consequence that has been suggested to be avoided by routine ilioinguinal nerve excision. The likelihood of inflammatory neuralgia resulting from neuroma, entrapment and fibrotic reactions would theoretically be eliminated by ilioinguinal nerve excision, however there are still issues with this treatment, and it is not frequently recognised. The current study sought to assess the effectiveness of elective ilioinguinal nerve excision vs nerve preservation in reducing persistent groin pain and other sensory problems during Lichtenstein inguinal hernia surgery.

Aims And Objectives:

To assess the outcome in preservation and division of ilioinguinal nerve in open mesh repair of inguinal hernia.

MATERIALS AND METHODS:

50 inguinal hernia patients participated in this prospective trial over a period of 18 months. In this study, patients admitted with uncomplicated inguinal hernias (both males and females) in the Department of General Surgery at Narayana Medical College and Hospital, Nellore, served as the clinical material. The study was conducted (over an 18-month period) from January 2022 to June 2023 with a 3-month follow-up.

Sample size: 50 cases

25 cases with ilioinguinal nerve preservation (group A) 25 cases with elective division of the nerve (group B).

Inclusion criteria: Patients admitted with an uncomplicated inguinal hernia (Direct & Indirect hernias). Includes both sexes. Adults over 18 years who are capable of providing proper, informed consent.

Exclusion criteria: Those who have diabetes mellitus. Recurrent hernia sufferers. Inguinal surgery that has already been performed. Mesh allergy, followed by hernia repair, during the observation period. Prior injuries and pain in the inguinal area.

Follow up: Three months after the operation date is the time for follow-up.

Comparative parameters: Pain (using 4-point verbal scale), hypoesthesia and numbness.

Statistical analysis: The outcomes of the two groups were compared and analysed using SPSS software, in this study.

RESULTS:

Total of 50 patients, 47 patients were included as 3 patients were excluded, 1 in group A and 2 in group B as they were lost follow up. So, 24 patients in Group A and 23 patients in Group B were considered for the study

Table 1: Showing comparison of different variables between groups as per Age, Sex and Location.

PARAMETERS	Group A (n=24)	Group B (n=23)
Age (years)	20-70 yrs	20-70 yrs
Sex		
Male	17	15
Female	07	08
Location		
Right	14	12
Left	10	11
Type		
Direct	07	05
Indirect	17	18

Table 2: Showing comparison of variables between groups with respect to Mode of onset, Duration of illness, Predisposing factors

PARAMETERS	Group A (n=24)	Group B (n=23)
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Mode of Onset		
Swelling	16	18
Swelling with pain	08	05
Duration of illness		
<6months	03	05
6- 12months	11	4
>12months	10	14
Predisposing Factors		
Associated	18	17
Not associated	06	06

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Table 3: Showing follow-up period in both groups

FOLLOW UP	Group A (n=24)	Group B (n=23)
POD 1	14	12
Month 1	13	10
Month 3	12	09

DISCUSSION:

Chronic groin discomfort after open hernia repair is a serious issue. Despite the fact that pain is frequently rather mild in nature, research on quality of life have shown that chronic pain can considerably hinder daily activities. The goal of the current study was to assess the effects of ilioinguinal nerve division and ilioinguinal nerve preservation during hernia mesh repair on postoperative groin discomfort, hypoesthesia, and numbness.

In the present study, number of patients evaluated for pain, hypoesthesia and numbness are 47, in two study groups patients (group A – 24 patients and group B - 23patients).

In group A ilioinguinal nerve was carefully protected throughout the operation and also extreme care was taken during surgery to avoid inclusion of nerve during suturing and mesh placement.

In group B the ilioinguinal nerve was divided lateral to the deep inguinal ring. In the present study, with respect to age more number of patients were present between 51-60 years in both the groups {group A (29.16%) and group B (34.7%)}. Males were 40 (85%) and females were 7 (14.8%). Duration of illness were 10 (21.2%) in <6months, 20 (42.5%) in 6 -12months, 17 (36.17%) in >1 year. Patients with direct hernia was 13 (27.6%), indirect hernia was 34(72.3%). Right sided hernias were more 26 patients (55.3%), left sided hernias were 21 patients (44.6%). Regarding occupation, patients doing heavy work were 28(59.5%), moderate work was 14(29.7%), light work were 5(10.6%).

The incidence of postoperative chronic groin pain 58.3% vs 52.1%, 54.16% vs 43.4%, 50% vs 39.1% at POD -1, 1 month, 3 months. This showed the incidence of chronic groin pain is lower in ilioinguinal nerve division (group B) compared to nerve preservation (group A) at 3 months follow up visit.

CONCLUSION:

The current prospective comparative analysis showed that ilioinguinal nerve prophylactic division during Lichtenstein mesh hernia repair reduces the occurrence of chronic groin discomfort following surgery.

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