

## Original Research Article

# Study of post-operative pain incidence in patients with inguinal hernioplasty

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## Abstract

**Background:** Continued chronic pain after inguinal hernioplasty is the most important current issues. Factor responsible for pain development mechanisms are still unclear. Influence of age as well as other factors is still controvertible.

**Objectives:** To study the incidence of occurrence of postoperative pain in relation to age and duration of hernia.

**Materials and methods:** A cross sectional prospective study includes 220 patients between 18-80 years. Participants willing for scheduled follow up of 7<sup>th</sup>, 30<sup>th</sup>, 90<sup>th</sup> and 180<sup>th</sup> day were considered for this study. All patients were explained for surgery and probable complications.

**Results:** Study of chronic pain had shown that 12 (10.9%) had mild pain, 2 (1.4%) had mild pain but occasional taking drugs and 2 (1.4%) had moderate pain but not taking any drug on 90<sup>th</sup> day. On 180<sup>th</sup> day, 7 (6.4%) had chronic pam of which 6 (5.5%) had mild pain while 2 (0.9%) patients had moderate pain but none of the patients were taking any analgesics.

**Conclusion:** There was significant association between age of the patients and pain. Chronic pain and the severity of pain decrease with advancing age.

## Key words

Pain, Hernia, Incidence, Age.

## Introduction

Post-operative chronic pain after inguinal herniorrhaphy is less common, various studies reported the incidence of pain range from 0% to

37% [1-7]. However, the extent to which chronic pain impairs function has not been well described. The development of chronic pain after inguinal herniorrhaphy has been attributed to several mechanisms, including damage to well-

defined sensory nerves such as ilioinguinal, iliohypogastric, and genitofemoral [8].

Abdominal hernias include groin hernia (70%), umbilical hernia (15%), epigastric hernia (7%) and incisional hernia (9%). Most abdominal hernia arises in the groin because it is the transition zone between the abdomen and thigh. Inguinal canal is a potential weak opening in the lower abdominal wall, which allows the passage of blood vessels, lymphatic, vas deference and nerves to enter the scrotum. Approximately 96% of all the groin hernias are inguinal and remaining 4% being femoral [9]. With the above literature support, the present study is aimed to study the incidence of occurrence of postoperative pain in relation to age and duration.

### Materials and methods

The present cross sectional prospective study was conducted in Department of General surgery, MNR Medical College and Hospital, Sangareddy during 2013 to 2015. All patients having bilateral hernias, each side considered as a separate surgery for purpose of evaluation. In our study there were 220 patients interventions included, from 18 to 80 years. Participants willing for scheduled follow up of 7<sup>th</sup>, 30<sup>th</sup>, 90<sup>th</sup> and 180<sup>th</sup> day were considered for this study. All patients were explained for surgery and probable complications. Informed consent was obtained from all the patients.

### Inclusion criteria

- Male patients above 18 years.
- Patients willing for follow-up study
- Uncomplicated inguinal hernias and fit for surgery.
- Participant willing for Liechtenstein hernioplasty

### Exclusion criteria

- Pre peritoneal hernia surgery
- Laparoscopic hernia surgery
- Recurrent hernia surgery
- Other systemic diseases

### Results

To consider the frequency as per the age group we have divided the patient's age in three groups young age (0-39 years.), middle age (40-60 years.) and old age (>61 years) as per **Table - 1**.

**Table – 1:** Age distribution of the patients.

Age of patient (Years)	No. of patients	%
18-20	3	2.7
21-30	16	14.4
31-40	17	15.4
41-50	19	17.2
51-60	24	21.8
61-70	23	20.8
71 onwards	8	7.7
Total	110	100

The data on the 30<sup>th</sup> day suggest 61 (55.5%) patients were pain free. There were 49 (44.5%) patients having pain, only 5 (5%) had moderate pain, other 44 (39.5%) had mild pain and no patient had severe pain. There were 17 (61.4%) young patients had pain in compare to middle 19 (37.3%) and 13 (41%) old age group. Above finding suggest that the pain on 30<sup>th</sup> day was more in young patients than in other age groups, but the pain was mild in nature and was well tolerated by patients and few patients required analgesics to control it.

The data on 90 days suggest 13.6% patients had pain (n=15). Of which 10.9% (n=12) with mild pain, 1.9% (n=3) with mild pain but occasionally takes drug, and 1.9% (n=3) with moderate pain and frequently require drugs. There were 6(22.8%) young patients had pain in compare to middle 7(6.4%) and 2(2.5%) old age group.

The extended follow up of 180<sup>th</sup> day shows that the incidence of chronic pain was 7(6.4%) only with 6(5.5%) had mild pain and 2(0.9%) had moderate pain but no patient had severe disabling pain.

## Discussion

In our series, a total of 103 patients having 122 surgical interventions enrolled but 10 patients with 12 interventions were excluded with dropout ratio of 10%. Finally 93 patients with 110 patient interventions were included for analysis. The study of Koch, et al. [10] had 4% and Callesen, et al. have 7% of drop out ratio [11]. In the present study 44 (44.5%) had pain on 30<sup>th</sup> day and it was 18(61.4%) young, 38 (37.3% middle and 25 (41%) old age group patients. Analysis on 90<sup>th</sup> day showed chronic pain in 30 (13.6%) patients and it was 13 (22.8), 14 (12.7%) and 4 (6.6%) in respective age groups. on 180<sup>th</sup> day, chronic pain was present in 14 (6.4%), it was 5 (8.8%) young patients in compare to middle 7 (6.9%) and 2 (3.1%) old age group. the moderate pain group both 2 (0.9%) were from young group. Analysis found that there was significant relation between age of the patients age and pain. Severity of pain decreases with advancement of age.

Chronic pain after inguinal hernioplasty can be defined as a persistent pain in operated groin region, lasting from 6 months after reoperation until at least one year, following EHS guidelines definition [12, 13]. Of course for patients post-hernioplasty pain begins after the operation and they have fear to have a chronicization of pain, when its duration is more than one week. However, previous studies have shown the influence of many factors.

Poobalan, et al., had reported 30% chronic pain at 3months with 11(58%), 33(40%) and 169(14%) in similar age groups and had concluded the same [14]. In a study by Bay-Nielsen, et al. chronic pain incidence was 28.7% and the relation of chronic pain to age groups were 39.7%, 33.2% and 17.6% respectively, with functional impairment rate of 11.2% and 6.1% in young and old age groups [15]. In further study they conclude that pain was more common in patients younger than 40 years of age [16].

## Conclusion

There was significant association between age of the patient's age and pain. Chronic pain and the severity of pain decrease with advancing age. But with extended follow-up it is not observed so. There was weak relation between side hernia and chronic pain but no association of unilateral or bilateral hernia to chronic pain

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