

# Evaluation of Chronic Postoperative Pain in Hernioplasty Tapp versus Lichtenstein by Residents

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## Abstract

The incidence of inguinal hernia throughout life is variable but more prevalent in males. Today there is no superior technique for reducing chronic postoperative pain, which is the greatest morbidity afflicts patients. That is why we carried out a brief comparative analysis, where we evaluated the incidence of chronic pain between conventional versus laparoscopic rehearsal of hernia pathology.

**Keywords:** Chronic Postoperative Pain; Hernioplasty Tap; Lichtenstein

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**Citation:** Garcias L, Vélez S, Gramática L (2023) Evaluation of Chronic Postoperative Pain in Hernioplasty Tapp versus Lichtenstein by Residents. *Prensa Med Argent*, Volume 109:2. 391. DOI: <https://doi.org/10.47275/0032-745X-391>

**Received:** January 30, 2022; **Accepted:** February 20, 2023; **Published:** February 25, 2023

## Introduction

The appearance of inguinal hernia throughout life is 27% to 43% in men and 3–6% in women [1]. A standard repair technique for all inguinal hernias does not exist. The mesh repair is recommended as the first option, either by an open or laparoscopic procedure, provided that the surgeon has sufficient experience in the specific procedure [2]. The Lichtenstein technique is considered the reference standard to repair the open inguinal hernia, with recurrence rates of less than 1%. Morbidity is mainly related to chronic pain that can occur in up to 63% of patients and affects the quality of life by 5-10% [3]. The increase in inguinal hernioplasty Laparoscopic has aimed to reduce chronic pain rates without compromising recurrence rates.

There is a lot of speculation about the cause of the chronic disease after hernioplasty, and several risk factors have been identified, such as recurrence, patient age, cremaster muscle resection, surgeon's experience, and the presence of preoperative pain. The influence, however, of different surgical techniques remains unclear [4].

The objective of this study is to confirm the hypothesis that the TAPP approach has a superior result that the Lichtenstein technique when comparing the quality of life of patients who underwent inguinal hernioplasties.

## Methods

A randomized prospective study was carried out at the National Hospital of Clinics. Where two groups were made, G1: Hernioplasty Lichtenstein and G2: HERIOPLASTY TAPP. All procedures were performed by the major resident of general surgery.

Chronic pain was defined as the one that lasts for more than a month since surgery.

- Patient inclusion criteria.
- Male or female adults, over 18 years of age who are subjected to elective reparation of open inguinal hernia with the use of prosthetic material.
- Inguinal hernias according to NYHUS I, II, IIIA– b. (Table 1)
- Patient with BMI <34.9 (Obesity Grade I).
- Patient exclusion criteria.
- Inguinal hernias are classified as Nyhus IIIC and type IV.
- Patient with BMI > 35.
- Patient with ASA classification (American Anesthesiology Association) > 3.
- Emergency surgery.

As for the inferential statistics, for the study of qualitative variables, Pearson's Chi-Square test was used when possible, and when it was not, Fisher's exact statistic was calculated to compare parameters of the conventional and laparoscopic approach.  $P < 0.05$  was considered statistically significant.

## Results

A total of 40 patients, 22 men (60%) and 18 women (40%), were included in the study, 20 were subjected to Lichtenstein (50%) and 20 to Hernia Tapp repair (50%). The average age of the patients was  $55.8 \pm 11.02$  years. The groups were similar in terms of demographic characteristics and also according to the NYHUS classification system (Table 1).



**Table 1:** NYHUS classification system.

TIPO	Nyhus clasificación
I	Indirect inguinal hernias, internal inguinal ring of normal diameter
II	Indirect inguinal hernias; Dilated internal inguinal ring with normal posterior wall, non-displaced epigastric vessels
III a	Direct inguinal hernia, the size is not considered
III b	Indirect hernia with significant dilation of the internal inguinal ring; Rear wall involved; inguinoscrotal hernia and hernia in pants
III c	Femoral hernia
IV	Recurring hernias

**Table 2:** The Nyhus preoperative classification percentage in Lichtenstein and TAPP groups.

Nyhus	LICHTENSTEIN	TAPP
I	2 (20%)	1 (10%)
II	3 (30%)	4 (40%)
III A	4 (40%)	4 (40%)
III b	1 (10%)	1 (10%)

The duration of surgery for the open repair group was  $54.94 \pm 16.48$  minutes, a significantly lower value than for hernioplasty TAPP which lasted  $110.77 \pm 29.90$  minutes ( $p < 0.01$ ). An experienced surgeon always supervised each surgery.

As postoperative complications in this series, we had 1 patient with chronic pain (2.5%), which belonged to the conventional group. Which was clinically treated with NSAIDs, without the need for infiltration and/or surgery, responding to treatment before three months. As for the laparoscopic approach, we have not obtained complications of this nature.

## Discussion

Several risk factors have been identified that play a crucial role in the development of chronic pain, but the long-term influence of the different groin approaches and the presence or absence of a prosthetic mesh in long-term discomfort is not clear. Current studies on postoperative pain after repairing a hernia are difficult to compare, mostly, non-random retrospective designs and relatively short follow-ups.

Köckerling et al. [5-7]. It is known that laparoscopic surgical techniques are associated with a longer learning curve due to their greater complexity and skill required. For example, the learning curve in the TAPP technique for inguinal repair of a hernia may require between 50 and 100 procedures. Despite the largest learning curve in TapP, mesh-free procedures also have a relevant and defined learning curve that, if it is not followed correctly, could result in high recurrence and/or chronic pain rates [8-10].

## Conclusion

The incidence of postoperative pain after repairing a hernia differs with the type of surgical approach. Laparoscopic TAPP repair was less postoperative pain than the Lichtenstein technique but was not statistically significant.

The present study showed that the TAPP approach made by residents with experience in laparoscopic surgery is safe and reduces early postoperative pain, with a notorious improvement in quality of life and reintegration into everyday activities earlier.

## Declarations

The authors declare that they have no conflicts of interest, that the work has been approved by the ethics committee responsible in the workplace, and do not declare means of financing the work carried out. The article was sent with the consent of all authors for their evaluation and publication.

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