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Original Research Article

Chronic postoperative inguinal pain after open inguinal hernioplasty: prevalence and clinical characteristics in a Mexican secondary care hospital

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ABSTRACT

Background: Chronic postoperative inguinal pain, also known as inguinodynia, is one of the most clinically relevant complications following open inguinal hernia repair and may significantly impair quality of life. This study aimed to determine the prevalence and clinical characteristics of chronic postoperative inguinal pain in patients undergoing open inguinal hernioplasty at a secondary care hospital in Mexico.
Methods: A prospective, descriptive, cross-sectional, single-center study was conducted in adult patients who underwent open inguinal hernioplasty at Hospital General de Zona No. 20, Puebla, Mexico, between 2024 and 2025. A total of 94 patients were included through simple random probabilistic sampling. Data were obtained from clinical records and follow-up interviews performed either by telephone or in person using a standardized questionnaire. Variables included age, sex, body mass index, presence and intensity of inguinal pain and use of non-steroidal anti-inflammatory drugs.
Results: The prevalence of chronic postoperative inguinal pain was 17% (16/94), corresponding to approximately one in six patients. Most symptomatic patients were male and between 35 and 54 years of age. Pain intensity was predominantly mild to moderate; however, a small subgroup reported severe to very severe pain. Compared with previously published data, our prevalence was slightly lower than the 24.8% reported in open repair cohorts.
Conclusions: Inguinodynia remains a frequent complication after open inguinal hernioplasty. Although most patients presented mild to moderate symptoms, severe pain requiring specialized management was identified in a minority. Standardized postoperative surveillance protocols may improve early recognition and treatment.

Keywords: Chronic postoperative pain, Inguinodynia, Inguinal hernia, Open hernioplasty, Prevalence

INTRODUCTION

Inguinal hernia repair is one of the most frequently performed surgical procedures worldwide, with more than 20 million procedures performed annually. Although recurrence was historically considered the most important postoperative complication, the widespread use of mesh-based techniques has shifted clinical concern toward chronic postoperative inguinal pain.[5] Inguinodynia is defined as persistent groin pain lasting more than 30 days after surgery and may continue for several months or even years following hernia repair.[2,4] Reported prevalence ranges from 10% to 30%, depending on the surgical technique employed, duration of follow-up and diagnostic criteria used across studies.[1,4,5] Several studies have demonstrated that chronic postoperative pain

significantly impairs quality of life, affecting daily activities, work performance and social functioning.[2,3] Clinically reported studies have shown that although most patients experience mild symptoms, a subset develops severe pain requiring specialized multidisciplinary management.[3,4] The pathophysiology of chronic postoperative inguinal pain is multifactorial and may include direct nerve injury, nerve entrapment by sutures or mesh, fibrosis and chronic inflammatory response involving the ilioinguinal, iliohypogastric and genitofemoral nerves.[2-5] Despite increasing awareness of this condition, few studies evaluating the prevalence and characteristics of inguinodynia have been conducted in Mexican secondary care hospitals. Therefore, this study aimed to determine the prevalence and clinical characteristics of chronic postoperative inguinal pain in patients undergoing open inguinal hernioplasty at the institution.

METHODS

A prospective, descriptive, cross-sectional, single-center study was conducted at the General Surgery Department of Hospital General de Zona No. 20 "La Margarita", Puebla, Mexico. Patients aged 18 years and older who underwent open inguinal hernioplasty between 2024 and 2025 were included.

Inclusion criteria

Male or female patients, age ≥18 years, open inguinal hernia repair, complete clinical records were included.

Exclusion criteria

Intraoperative complications, incomplete records, inability to complete follow-up interview were excluded.

A total of 94 patients were included according to probabilistic random sampling.

Data collection

Data collection was performed through medical record review and postoperative interviews by telephone or in person.

Variables analyzed

Age, sex, body mass index, presence of inguinodynia, pain intensity (visual analog scale), use of NSAIDs.

Descriptive statistics were used.

RESULTS

A total of 94 patients were included. The most frequent age group was 45–54 years (29.8%), followed by 35–44 years (25.5%). Male patients represented 85.1% of the sample.

The prevalence of inguinodynia was 17% (n=16). Pain intensity was predominantly mild to moderate. The demographic and clinical characteristics are summarized in Tables 1–3.

Table 1: Baseline characteristics and prevalence of inguinodynia in patients undergoing open inguinal hernioplasty (n=94).

Variable	N	%
Age group (in years)		
18–25	5	5.3
26–34	14	14.9
35–44	24	25.5
45–54	28	29.8
≥55	23	24.5
Sex		
Male	80	85.1
Female	14	14.9
Body mass index (kg/m²)		
<18.5	5	5.3
18.5–24.9	47	50
25–29.9	24	25.5
30–34.9	11	11.7
≥35	7	7.5
Presence of inguinodynia		
Yes	16	17
No	78	83

Table 2: Pain intensity among patients with chronic postoperative inguinal pain (n=16).

Pain intensity	N	%
Mild	5	31.3
Moderate	7	43.8
Severe	2	12.5
Very severe	2	12.5

Table 3: Use of non-steroidal anti-inflammatory drugs among study participants (n=94).

NSAID use	N	%
Yes	12	12.8
No	82	87.2

DISCUSSION

Chronic postoperative inguinal pain remains one of the most clinically relevant complications following inguinal hernia repair because of its negative impact on patients' quality of life and functional status.[2,3,5] In the present study, the prevalence of inguinodynia was 17%, corresponding to approximately one in every six patients undergoing open inguinal hernioplasty. The prevalence observed in our study falls within the internationally reported range of 10% to 30%.[1,4,5] Prasad and Patel reported an incidence of 24.83% among patients undergoing open inguinal hernia repair, which is slightly higher than that observed in the cohort.[1] This difference may be explained by variations in sample size, patient characteristics, surgical expertise, postoperative follow-up duration and pain assessment methods. Likewise, the HerniaSurge international guidelines recognize considerable heterogeneity in the reported prevalence of chronic postoperative pain due to differences in study methodology and diagnostic criteria.[5]

Regarding demographic characteristics, most patients in our study were male (85.1%), reflecting the well-established predominance of inguinal hernias among men. Similar sex distributions have been reported in previous epidemiological studies evaluating inguinal hernia repair populations.[5] The most frequent age group in our cohort was 45–54 years, which is consistent with previous reports indicating that inguinal hernias and their surgical treatment are more common in middle-aged and older adults.[5] Concerning pain severity, most symptomatic patients experienced mild to moderate pain, while only a minority reported severe or very severe symptoms. These findings agree with previous studies demonstrating that although chronic postoperative pain is relatively frequent, severe disabling pain occurs in a smaller proportion of patients.[2,3] Acevedo et al reported that most cases of inguinodynia are mild and manageable with conservative treatment, whereas only a limited subset requires referral for specialized pain management or surgical intervention.[2] Similarly, Angeramo et al emphasized that patients presenting severe persistent pain benefit from a multidisciplinary approach involving surgeons, pain specialists and rehabilitation teams.[3] In the study, NSAID use was reported by only 12.8% of participants, suggesting that many patients either experienced symptoms of low intensity or did not require continuous pharmacological treatment. Nevertheless, the identification of patients with severe pain underscores the importance of implementing standardized postoperative surveillance protocols to facilitate early diagnosis and timely therapeutic interventions.[3,4]

The present study has several limitations. First, its single-center design may limit the external validity of the findings. Second, the moderate sample size may reduce the precision of prevalence estimates. Third, pain assessment was partially based on postoperative interviews, which may introduce recall bias. Despite these limitations, this study provides valuable local epidemiological data regarding chronic postoperative inguinal pain in a Mexican secondary care setting, an area in which published evidence remains limited. Future multicenter studies with larger sample sizes and longer follow-up periods are warranted to better characterize risk factors associated with chronic postoperative inguinal pain and to evaluate strategies aimed at preventing this complication.

CONCLUSION

The prevalence of chronic postoperative inguinal pain after open inguinal hernioplasty was 17%. Most patients presented mild to moderate symptoms; however, severe pain was identified in a minority. Standardized postoperative surveillance protocols are recommended.

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