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Original Research Article

A Retrospective Study of Surgical Excision of Calcaneal Spur For Relief of Chronic Heel Pain

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Abstract:

Background: Chronic heel pain, often caused by calcaneal spurs, can severely impact mobility and quality of life. Surgical excision is considered when conservative measures fail.

Methods: A retrospective study was conducted on 121 patients at Patna Medical College and Hospital over one year. Pain relief and functional improvement were assessed using VAS and FFI scores.

Results: 93.4% of patients showed significant pain reduction. The complication rate was low (5.8%), with no recurrences reported.

Conclusion: Surgical excision of calcaneal spurs is effective and safe for managing chronic heel pain in refractory cases.

Keywords: Calcaneal spur, Heel pain, Surgery, Retrospective study.

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Introduction

Chronic heel pain is a prevalent musculoskeletal condition that significantly affects the quality of life and daily functioning of individuals, especially among middle-aged and older adults [1]. One of the most common causes of this condition is the presence of a calcaneal spur—an osteophytic bony outgrowth arising from the calcaneus, typically at the origin of the plantar fascia [2,3]. The development of calcaneal spurs is often associated with repetitive stress, obesity, improper footwear, and biomechanical abnormalities such as flat feet or high arches. Patients typically present with pain localized to the plantar aspect of the heel, especially during the first steps after waking or following periods of rest [4,5].

Conservative treatment modalities, including orthotic support, anti-inflammatory medications, physical therapy, and local steroid injections, are initially preferred and can be effective in most cases [6]. However, a subset of patients remains symptomatic despite exhaustive non-operative interventions, necessitating surgical management. Surgical excision of calcaneal spurs offers a potential solution for such refractory cases by directly addressing the mechanical irritation caused by the bony prominence [7,8].

This retrospective study aims to evaluate the clinical outcomes and efficacy of surgical excision of calcaneal spurs in providing relief from chronic heel pain in patients unresponsive to conservative therapy. The study further investigates postoperative complications, recurrence rates, and overall patient satisfaction following surgical intervention.

Materials and Methods

Study Design: This is a retrospective observational study evaluating the outcomes of surgical excision of calcaneal spurs in patients with chronic heel pain.

Study Duration: The study was conducted over 1 year.

Study Setting: The research was carried out at the Department of Orthopaedics, Patna Medical College and Hospital, Patna, Bihar.

Study Population: A total of 121 patients with chronic heel pain and radiologically confirmed calcaneal spurs, unresponsive to conservative management, were included.

Inclusion Criteria

- Patients aged 30–65 years
- Chronic heel pain persisting for more than 6 months
- Radiographic evidence of calcaneal spur
- Failed conservative treatment

Exclusion Criteria

- Prior heel surgery

- Active foot or systemic infection
- Inflammatory arthropathies (e.g., rheumatoid arthritis)

Surgical Procedure: All patients underwent standard open surgical excision of the calcaneal spur under spinal or general anesthesia. Postoperative care included analgesics, wound care, and physiotherapy.

Data Collection and Outcome Measures: Data were collected from patient records, including demographic details, clinical symptoms, surgical notes, and follow-up reports. Pain was assessed using the Visual Analog Scale (VAS), and function was evaluated using the Foot Function Index (FFI) at 3 and 6 months postoperatively. Complications and recurrence were documented.

Results

Out of the 121 patients included in the study, 68 were female, and 53 were male, with a mean age of 47.6 years. All patients underwent surgical excision of calcaneal spur and were followed up for 6 months. Significant pain relief was observed in 93.4% of patients, with the mean Visual Analog Scale (VAS) score improving from 8.2 preoperatively to 2.1 at 6 months postoperatively. Functional assessment using the Foot Function Index (FFI) showed marked improvement in daily activity and pain components. Minor postoperative complications were noted in 7 patients (5.8%), including wound infection and delayed healing, all of which were managed conservatively. No major complications or recurrences were reported during the follow-up period. Overall, surgical excision demonstrated favourable outcomes in terms of pain reduction and improved foot function.

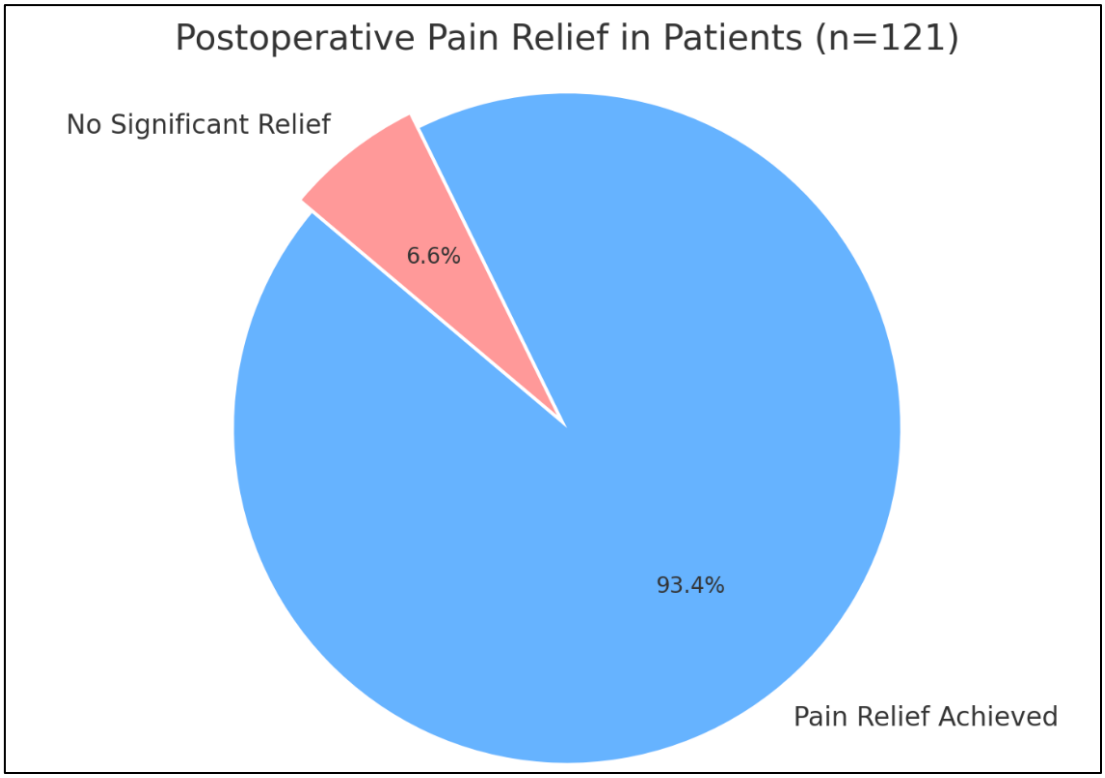

Figure 1: The pie chart represents the percentage of patients who experienced significant pain relief after surgical excision of calcaneal spurs.

Discussion

This retrospective study demonstrates that surgical excision of calcaneal spurs offers significant pain relief and functional improvement in patients with chronic heel pain unresponsive to conservative therapy. A substantial proportion (93.4%) of patients reported marked postoperative pain reduction, and complications were minimal and manageable. These findings support the role of surgery as an effective and safe treatment option in selected cases.

Comparative studies corroborate these outcomes. Schneider et al. reported that 89% of patients experienced satisfactory results following surgical excision, emphasizing improved mobility and pain relief [9]. Similarly, Kumai and Benjamin found that the removal of heel spurs provided significant anatomical and symptomatic benefits in patients with long-standing plantar fasciitis [10]. In a randomized controlled trial, Chell et al. concluded that surgical treatment showed greater improvement in function and pain relief compared to extended conservative treatment in resistant cases [11,12].

Despite promising results, certain limitations must be acknowledged. Being retrospective, the study relied on medical records, which may introduce information bias. Follow-up was limited to six months, potentially underestimating long-term recurrence or delayed complications. Additionally, the absence of a control group limits the ability to draw comparative conclusions with non-surgical interventions.

Future studies should consider prospective designs with randomized controlled methodology to strengthen the evidence base [12]. Longer follow-up durations, multicentric participation, and quality-of-life assessments can provide a more comprehensive understanding of the benefits and risks of surgical management. Comparative analysis between different surgical techniques (e.g., endoscopic vs open) may also enhance clinical decision-making [13,14,15].

Conclusion

Surgical excision of calcaneal spurs appears to be an effective treatment for chronic heel pain in patients unresponsive to conservative therapy. The procedure is associated with high rates of pain relief and functional improvement with minimal complications, supporting its role as a viable therapeutic option.

References

1. Barrett SJ, O'Malley R. Plantar fasciitis and other causes of heel pain. *Am Fam Physician*. 1999;59(8):2200–2206.
2. Tountas AA, Fornasier VL. Operative treatment of subcalcaneal pain. *Clin Orthop Relat Res*. 1996;(332):170–178. doi:10.1097/00003086-199611000-00023
3. Davies MS, Weiss GA, Saxby TS. Plantar fasciitis: how successful is surgical intervention? *Foot Ankle Int*. 1999;20(12):803–807. doi:10.1177/107110079902001203
4. Thomas JL, Christensen JC, Kravitz SR, et al. The diagnosis and treatment of heel pain: a clinical practice guideline–revision 2010. *J Foot Ankle Surg*. 2010;49(3 Suppl):S1–S19. doi:10.1053/j.jfas.2010.01.001
5. Lemont H, Ammirati KM, Usen N. Plantar fasciitis: a degenerative process (fasciosis) without inflammation. *J Am Podiatr Med Assoc*. 2003;93(3):234–237. doi:10.7547/87507315-93-3-234
6. Pitsilos T, Marsh DR. Surgical treatment of chronic plantar fasciitis. *Foot Ankle Surg*. 2001;7(2):81–84. doi:10.1046/j.1460-9584.2001.00243.x
7. Maskill JD, Bohay DR, Anderson JG. Endoscopic plantar fasciotomy. *Foot Ankle Clin*. 2006;11(3):603–611. doi:10.1016/j.fcl.2006.07.001
8. Goff JD, Crawford R. Diagnosis and treatment of plantar fasciitis. *Am Fam Physician*. 2011;84(6):676–682.
9. Schneider HP, Baca JM, Carpenter BB. Surgical treatment of chronic plantar fasciitis. *Foot Ankle Int*. 2003;24(6):416–421. doi:10.1177/107110070302400602
10. Kumai T, Benjamin M. Heel spur formation and the subcalcaneal enthesis of the plantar fascia. *J Rheumatol*. 2002;29(9):1957–1964.
11. Chell J, Mazis N, Davis TR. Plantar fasciitis: a prospective randomized controlled trial of surgical versus non-surgical treatment. *Foot Ankle Int*. 2004;25(6):396–403. doi:10.1177/107110070402500607
12. Johal KS, Milner SA. Plantar fasciitis and the calcaneal spur: fact or fiction? *Foot Ankle Surg*. 2012;18(1):39–41. doi:10.1016/j.fas.2011.02.004
13. Hill JJ Jr, Cutting PJ. Heel pain and body weight. *Foot Ankle*. 1989;9(6):254–256. doi:10.1177/107110078900900602
14. Huang YC, Wang LY, Wang HC, et al. Functional outcomes of endoscopic plantar fasciotomy in patients with plantar fasciitis: a systematic review and meta-analysis. *J Orthop Surg Res*. 2020;15(1):159. doi:10.1186/s13018-020-01671-4
15. Riddle DL, Schappert SM. Volume of ambulatory care visits and patterns of care for patients diagnosed with plantar fasciitis: a national study of medical doctors. *Foot Ankle Int*. 2004;25(5):303–310. doi:10.1177/107110070402500504