



Title: Ultrasound-Guided Common Peroneal Nerve Block and Scar Infiltration for Chronic Postoperative Neuropathic Pain: A Case Report

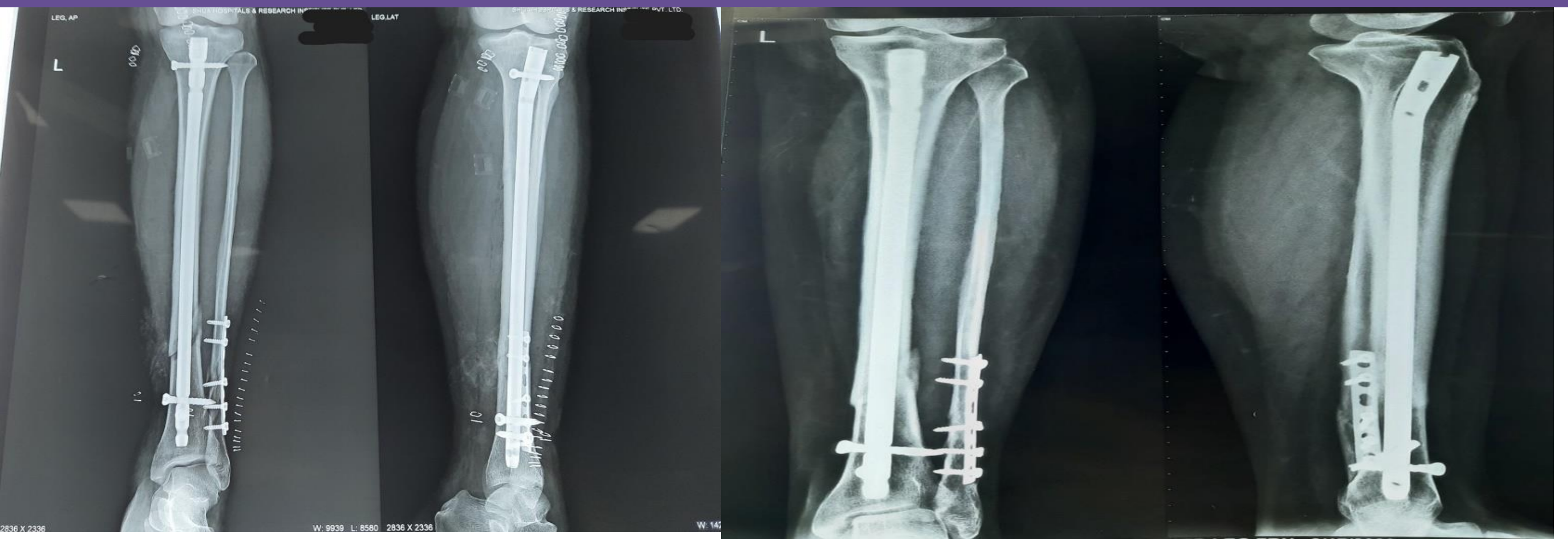
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Abstract

Chronic postoperative pain, especially with neuropathic features, poses a significant challenge in orthopedic surgery patients.¹This case highlights the management of a 38-year-old female presenting with persistent neuropathic pain along the superficial peroneal nerve distribution two years after intramedullary nailing of the tibia and ORIF of the fibula for distal tibia and fibula fractures.

Introduction



Post Surgery After proximal screw removal

Chronic postoperative pain with neuropathic characteristics remains a complex issue in orthopedic surgery. Neuropathic pain can arise due to nerve injury, fibrosis, or persistent inflammation, significantly impacting the patient’s quality of life. Ultrasound-guided peripheral nerve blocks and scar infiltration have been explored as effective interventional strategies to alleviate chronic postoperative pain. This case report discusses a patient with chronic neuropathic pain following tibia and fibula fracture surgery, emphasizing the role of targeted pain management techniques.

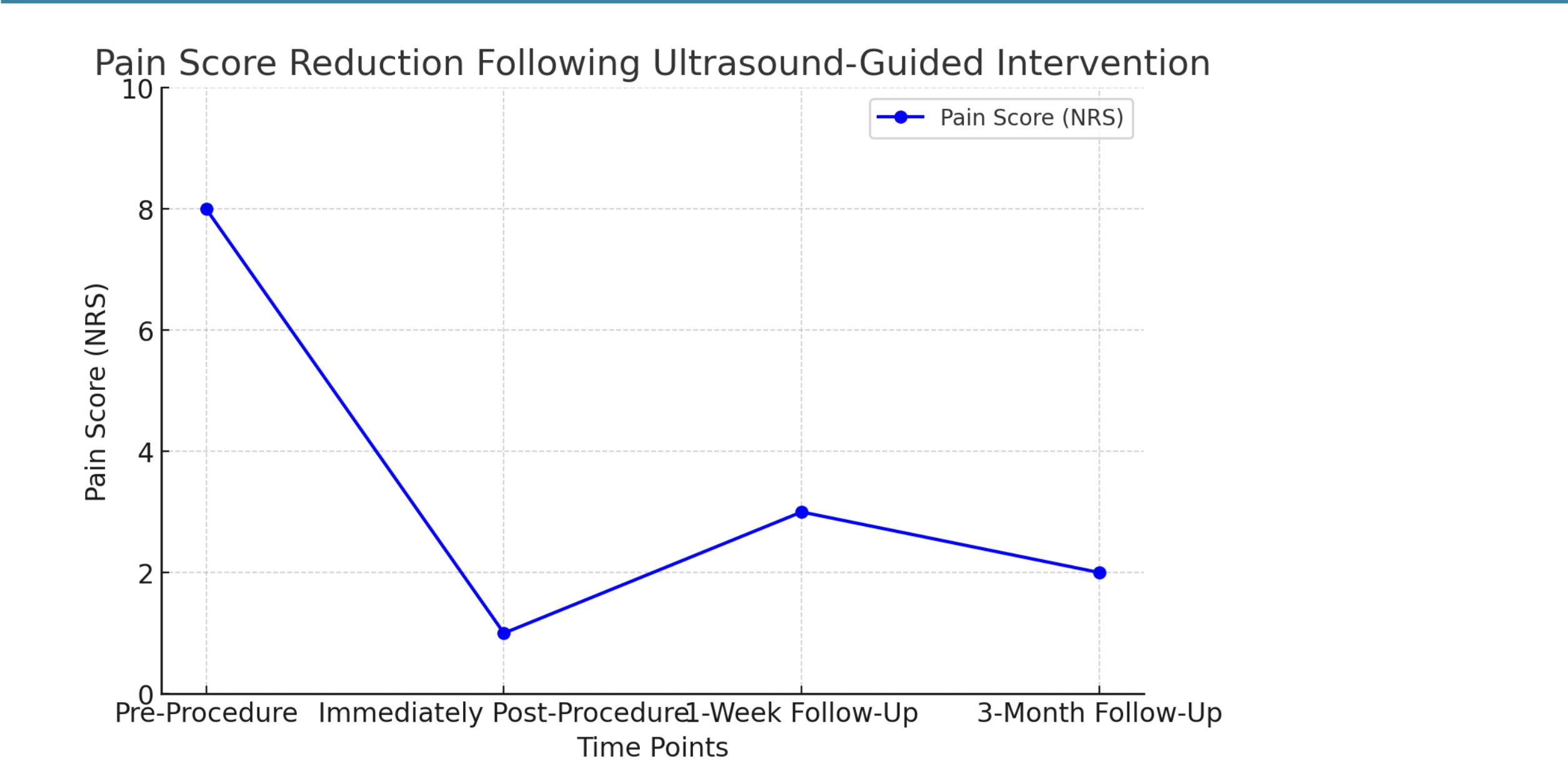
Methodology

The case was reviewed under the policy of Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, which exempts IRB review for reports devoid of identifiable patient information. No identifiable patient information is included in this report. Written informed consent for treatment and case reporting was obtained from the patient. The patient presented with electric shock-like pain while flexing and touching left leg, paresthesia, and scar hypersensitivity despite previous proximal interlocking screw removal in April 2022 and physiotherapy. Management included ultrasound-guided interventions: a common peroneal nerve block with 0.5% bupivacaine (10 mL) and methylprednisolone (60 mg), as well as scar infiltration over left knee with 0.5% bupivacaine (4 mL) and 20 mg of methyl prednisolone.²⁻⁴

Results

The patient had a history of a fractured left distal tibia and fibula due to a fall. Intramedullary nailing of the tibia and open reduction and internal fixation (ORIF) of the fibula were performed in September 2021. The patient presented to the orthopedic outpatient department (OPD) in April 2022 with continuous pain with NRS score of 8 in the fractured leg . After the removal of the proximal interlocking screw in April 2022, the patient was referred to the physical and rehabilitation OPD in September 2022 for isometric quadriceps strengthening exercises. In August 2023, the patient was referred to the pain clinic for complex regional pain syndrome (CRPS) and scar tenderness.⁵ On examination, pain and paresthesia were noted in the superficial peroneal nerve distribution, along with scar tenderness at the knee. The interventions provided substantial pain relief. The patient reported a 99% resolution of neuropathic pain immediately post-procedure, with significant improvements in mobility, including enhanced knee flexion and reduced heaviness while walking with NRS score of 3. Minimal residual pain at the nailing site was managed conservatively with oral analgesics (T. Amitriptyline 5 mg at bedtime for 5 days, followed by 10 mg at bedtime, and Tablet with combination of 100 mg of aceclofenac, 325 mg of paracetamol, and 15mg of serratiopeptidase for 3 days) and physiotherapy. Follow-up at three months confirmed sustained pain relief and functional improvement.

Conclusion



This case underscores the efficacy of ultrasound-guided nerve blocks and scar infiltration in addressing chronic postoperative neuropathic pain. Targeted interventions not only alleviate pain but also improve functional outcomes and quality of life. The role of multimodal strategies, integrating pharmacologic, interventional, and rehabilitative therapies, remains critical in optimizing recovery. Clinicians managing similar presentations should consider ultrasound-guided techniques as part of a comprehensive pain management plan.

References

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