

Pilot Study of Virtual Reality–Enhanced Ketamine Infusion for Refractory Neuropathic Pain: Feasibility and Safety

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Introduction

Ketamine infusions are used for refractory neuropathic pain but limited by dissociative side effects and variable efficacy. Immersive virtual reality (VR) may enhance analgesia and improve patient experience. This pilot study assessed feasibility, safety, and preliminary efficacy of combining VR with ketamine infusion therapy (KVR) in chronic neuropathic pain patients.

Results

- Pain Scores:
 - Baseline NRS : 8.0 ± 1.1
 - Post-infusion: 3.8 ± 1.3 ($p < 0.001$)
 - 24 hrs: 4.2 ± 1.5 ($p < 0.001$)
 - 7 days: 5.0 ± 1.6 ($p < 0.01$)
- Clinically meaningful relief ($\geq 50\%$) at 24 hours was observed in 75% of patients.
- Adverse effects: Mild dissociation (20%), nausea (10%), no serious events.
- Patient satisfaction: 85% preferred VR-enhanced infusion over prior ketamine experiences.

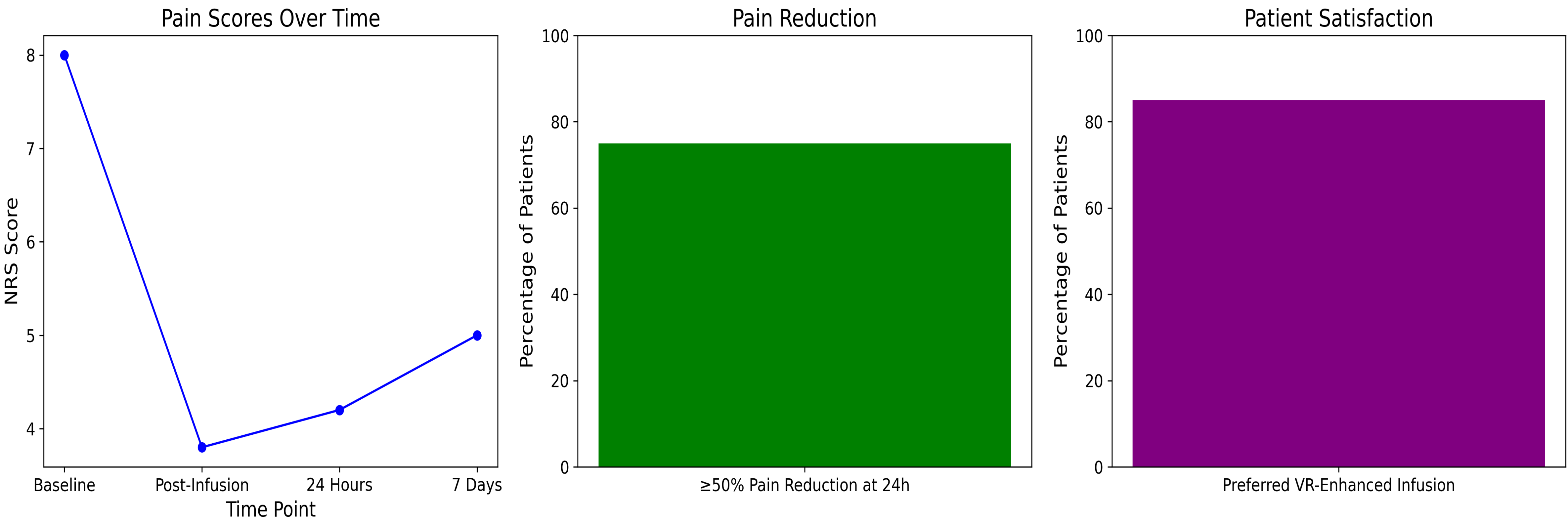
Discussion

First reported integration of VR into ketamine infusion for neuropathic pain. Safe, feasible, and potentially improves analgesia and comfort. Supports need for randomized trials to confirm synergy and standardize protocols.

Case Description

- Design: Retrospective review of 20 adults treated Jan–Jun 2025.
- Intervention: Low-dose ketamine (0.3–0.5 mg/kg over 2 hrs) + immersive VR headsets with guided pain-coping scenarios.
- Measures: Numeric Rating Scale (NRS) pain scores at baseline, post-infusion, 24 hrs, and 7 days; side effects; patient satisfaction surveys.

Pilot Study Results: VR-Enhanced Ketamine Infusion



Conclusions

VR-enhanced ketamine infusion shows promise for refractory neuropathic pain, with high patient satisfaction and manageable side effects.

Contact

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