A Novel Use of Low-Dose Naltrexone for Neuropathic Pain Relief in Traumatic Incomplete Paraplegia

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INTRODUCTION

- Spinal cord injury (SCI) is frequently complicated by neuropathic pain.
- First-line medications (gabapentin, baclofen, antidepressants) often yield incomplete relief or cause dose-limiting adverse effects.
- Low-dose naltrexone (LDN) (≤ 4.5 mg daily) is utilized off-label for chronic pain conditions like fibromyalgia and multiple sclerosis.
- Evidence evaluating LDN use specifically within the SCI population is currently nonexistent.

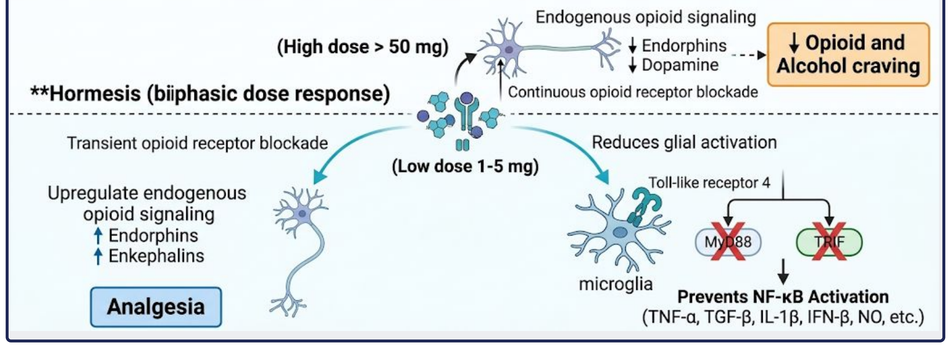
CASE DESCRIPTION

- **Patient:** 48-year-old female with traumatic incomplete paraplegia following a 35-foot fall (April 2021).
- **Surgical History:** Underwent T7-T9 laminectomy and T6-T10 fusion.
- **Presentation:** Evaluated in January 2026 for diffuse spasticity and burning neuropathic leg pain (intensity 3-4/10).
- **Prior Trials:** Gabapentin, duloxetine, and cannabis. All were poorly tolerated due to sedation and cognitive impairment.
- As a financial advisor, avoiding cognitive side effects was paramount. She actively self-tapered prescribed pregabalin and baclofen due to drowsiness.

INTERVENTION & RESULTS

- Initiated LDN 2.5 mg daily approximately one year prior to presentation.
- Achieved almost complete resolution of burning neuropathic leg pain shortly after initiation.
- Symptom control has remained sustained with zero cognitive side effects. The patient identified LDN as the most effective therapy she had tried.
- Pregabalin was added months later for supplementary management, but the dramatic improvement in pain occurred firmly prior to this addition.
- Given ongoing limitations from spasticity, the patient safely proceeded with chemodenervation and an inpatient intrathecal baclofen pump trial while continuing LDN.

MECHANISM OF ACTION OF LOW-DOSE NALTREXONE (LDN)



DISCUSSION

- **Mechanism of Action:** LDN is theorized to exert analgesia through transient opioid receptor blockade and the attenuation of microglial-mediated neuroinflammation.
- **Clinical Impact:** LDN was the only medication that provided profound pain relief and subjective improvement in spasms without inducing cognitive impairment.
- **Conclusion:** This case demonstrates LDN as a low-risk, non-sedating, off-label option for refractory SCI neuropathic pain.
- **Future Directions:** Emphasizes the need for formal clinical trials evaluating the efficacy and safety of LDN in the SCI population.

REFERENCES

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