Adjunctive Clonazepam for Refractory Acute Postoperative Pain Despite Continuous Peripheral Nerve Blocks

A. Ghafari BS, A. Nelson MD, S. Shah MD

UCI University of California, Irvine



Introduction

Acute postoperative pain after burn reconstruction and digit amputation can remain difficult to control despite multimodal analgesia and continuous peripheral nerve blockade. Psychological factors, including anxiety and pain catastrophizing, may further amplify pain and complicate management. We present a case of refractory postoperative pain despite aggressive multimodal and regional analgesia that improved following escalation of clonazepam therapy.

Case Presentation

A female in her 40s with third-degree burns and a necrotizing wound underwent multiple right upper-extremity digit amputations and split-thickness skin grafting from the right thigh. Despite regional anesthesia, she reported persistent 10/10 postoperative pain. Continuous peripheral nerve blockade with 0.2% ropivacaine (7 mL/hr with 4 mL patient-controlled boluses) provided only modest relief. Pain remained severe despite multimodal analgesia with acetaminophen, gabapentin, methocarbamol, oxycodone, IV hydromorphone, and ketamine. She remained tearful during examinations, was unable to tolerate dressing changes, and experienced worsening pain with attempts to wean ketamine.

Clonazepam, initiated at 0.5 mg nightly on POD 2, was increased to 0.5 mg twice daily on POD 8. Subsequently, pain scores decreased to 5–7/10, anxiety improved, and she became more cooperative with wound care. Overnight PRN requirements decreased from oxycodone 10 mg ×3 and IV hydromorphone 0.4 mg ×2 to oxycodone 10 mg ×1 and IV hydromorphone 0.4 mg ×1. Clonazepam was continued through discharge on POD 11.

Clinical Course

- Clonazepam 0.5 mg nightly initiated
  Regional + multimodal analgesia
  Pain: 10/10
- POD 2–7
  Poor dressing-change tolerance
  Catheter: R Subclavian -> R Infraclavicular
  Pain: 10/10
- Clonazepam increased to 0.5 mg BID
  Regional + Multimodal analgesia remain
  Begin to wean Ketamine (weaned POD 9)
- Anxiety improved
  Better wound-care participation
  Pain: 5-7/10
- Clonazepam 0.5 mg BID
  Catheter removed POD 10
  Discharged on Clonazepam 0.5mg BID

Overnight Breakthrough Opioid Requirements

BEFORE	AFTER
Oxycodone 10 mg ×3 IV hydromorphone 0.4 mg ×2	Oxycodone 10 mg ×1 IV hydromorphone 0.4 mg ×1

Discussion

This case highlights the complexity of refractory acute postoperative pain despite multimodal analgesia and continuous peripheral nerve blockade. Although clonazepam is not a conventional analgesic, dose escalation was temporally associated with improved pain scores, decreased breakthrough opioid requirements, reduced anxiety, and greater participation in wound care. These findings may reflect modulation of psychological contributors to pain rather than a direct analgesic effect and emphasize the value of a multidisciplinary approach to refractory postoperative pain.

Teaching Points

- Severe postoperative pain may persist despite multimodal analgesia and continuous peripheral nerve blockade.
- Psychological factors, including anxiety and pain catastrophizing, may contribute to refractory postoperative pain.
- Improvement in function, opioid requirements, and pain scores following clonazepam escalation suggests that addressing anxiety may complement conventional analgesic strategies.
- Clonazepam is not a conventional analgesic, and its temporal association with improvement in this case does not establish causality.

References

•Reddy S, Patt RB. The benzodiazepines as adjuvant analgesics. *J Pain Symptom Manage.* 1994;9(8):510-514. doi:10.1016/0885-3924(94)90112-0.

•Akita K, Kumakura Y, Nakajima E. Clonazepam for pain due to muscle spasm in a patient with vertebral compression fractures caused by multiple myeloma: a case report. *JA Clin Rep.* 2021;7:75. doi:10.1186/s40981-021-00477-1.

Acknowledgements

We thank the UCI Department of Anesthesiology & Perioperative Care and the multidisciplinary care teams involved in the management of this patient.