



Bilateral Nerve Blocks for Refractory Phantom Limb Pain in a Dialysis-Dependent Diabetic Patient

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Introduction

- Phantom limb pain (PLP) is common and disabling after amputation, affecting roughly 57% of patients and often persisting despite guideline-directed pharmacologic therapy.
- Standard pharmacologic options (gabapentinoids, antidepressants, opioids) often provide **limited relief** and **significant side effects**.
- Techniques such as **perineuromal hydrodissection**, **high-volume local anesthetic nerve blocks**, **peripheral nerve stimulation (PNS)**, and **targeted muscle reinnervation (TMR)** have demonstrated varying degrees of success in reducing both residual limb pain (RLP)

Case Presentation

- Patient:** 52-year-old woman with DM1, ESRD on dialysis, PAD, bilateral below-knee amputations with Refractory PLP (burning/pulsating, 10/10 at night, 5/10 day).
- Physical Exam showed a well-healed stumps, intact sensation, no allodynia or tenderness.
- Previous attempted treatments include Gabapentin (sedation, ineffective), opioids, antidepressants, topicals, muscle relaxants.
- We used ultrasound-guided **bilateral sciatic + femoral nerve blocks** with high-volume 0.25% bupivacaine + corticosteroid.
- She reported complete resolution of pain (0/10) following the procedure.

Published Study	Our Case
GLUCOSE HYDRODISSECTION (5% DEXTROSE)	HIGH-VOLUME NERVE BLOCK (BUPIVACAINE + STEROID)
	
TARGET Neuroma in residual limb	TARGET Bilateral sciatic & femoral nerves
INJECTATE 5–40 mL of 5% dextrose in water	INJECTATE 0.25% bupivacaine + dexamethasone
 MECHANISM Mechanical nerve release, neuroimmune modulation	 OUTCOME Immediate and complete phantom pain relief (0/10)
OUTCOME Reduction in residual limb pain; partial early phantom pain relief	CONTEXT Diabetic, ESRD patient — limited systemic drug options
NOTE No patients had complete pain resolution at 12 weeks	
Emphasize early treatment (≤ 3–6 months) for best outcomes	

Discussion

- Her diabetes makes her not a good candidate for glucose-based injection and her ESRD limits medication options.
- Our approach differs in **injectate composition** with local anesthetic + steroid (vs dextrose), **targeting** proximal peripheral nerve blocks vs (perineuromal hydrodissection),
 - Our patient achieved full PLP relief without a dextrose injectate and without a catheter or implanted device.
 - Perineuromal hydrodissection** with 5% dextrose combined with opioids had significant relief but **no patients** achieved complete absence of pain.
- Current guidelines emphasizes **earlier intervention** treating within ~6 months and showing the clearest advantages when pain duration is **≤3 months** which broadly aligns with the timing in our case.
- Timing** is important across studies. Signals of greatest benefit with dextrose hydrodissection were observed when treatment occurred **within months of onset**, particularly **≤3 months**.
- Our intervention occurred within **≤6-month** (early window)
- The profound and sustained PLP relief we observed is consistent with the idea that potent **peripheral silencing**, early in the course of disease, can secondarily modulate central processes implicated in PLP.

References

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