

Considerations of Vertebrogenic Lower Back Pain After Basivertebral Nerve Ablation (BVNA) Complicated in a Postmenopausal Woman: Case Report

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Background & Rationale

Chronic Low Back Pain (CLBP) & Osteoporosis

- CLBP is a leading cause of disability in older adults
- Vertebral endplate pathologies, including **Modic changes**, are linked to persistent back pain
- BVNA is increasingly used for CLBP but **remains relatively contraindicated in osteoporosis** (T-score < -2.5)

Knowledge Gap

- Few studies document Modic changes post-BVNA in osteoporotic patients
- High-risk populations (postmenopausal women, prior spinal surgery) require careful pre-procedural screening



Image 1: Lumbar Spine MRI Sagittal view with red arrows indicating significant post-BVNA changes in the vertebral bodies of L5 (superior) and S1 (inferior)



Severe osteoporosis may worsen vertebral changes after BVNA—screen high-risk patients first



Case Summary

Patient Overview

- 63-year-old female with history of: OSA, hypertension, GERD, IBS, osteoporosis, prior L3–S1 microdiscectomy.
- Persistent postsurgical low back pain treated with **L3–L5 medial branch RFA** and **L5–S1 BVNA**

Clinical Presentation

- Pain: stabbing, burning, tingling; worsened with flexion/extension; radiates to toes
- Medications: oxycontin, pregabalin

Imaging Findings

- MRI: pronounced central signal changes in L5–S1 post-BVNA; more extensive than typical
- **Modic-type endplate changes** at L5 superior endplate → axial pain contribution

Osteoporosis Confirmation

- DEXA: L3 T-score = -3.2 (severe osteoporosis)
- Previously diagnosed but formal workup not completed

Discussion & Clinical Implications

Key Points

- BVNA is **contraindicated in osteoporosis** due to fracture risk
- Severe bone loss may exacerbate post-ablation vertebral changes
- Risk factors: postmenopausal status, prior spinal surgery, opioid use

Recommendations

1. **Screen** high-risk patients before BVNA
2. **Diagnose & treat** osteoporosis prior to procedure
3. **Monitor imaging** for post-procedural changes in endplates

Implication:

- Proper pre-procedural evaluation may **reduce complications and improve outcomes** in osteoporotic CLBP patients undergoing BVNA