Persistent Occipital Neuralgia in Post-Craniotomy Patients: Diagnostic and Therapeutic Benefits of Occipital Nerve Blockage

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[1]**Alisha Deshmukh, MD**; [1]Anthony Reyes, MD; [1]Hong Wu, MD, MS

[1]Rush University Medical Center | Chicago, Illinois

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BACKGROUND

- Up to 23–34% of patients have chronic occipital pain at 3 months after craniotomy, and 12–16% at 1 year.
- Potential mechanisms include surgical trauma, scar formation, peripheral nerve injury, and sensitization.
- Persistent postoperative occipital pain may occur despite negative or non-explanatory radiographic findings, reflecting a potential radiographic–clinical dissociation.
- Iatrogenic occipital nerve injury and irritation may be an underrecognized source of refractory postoperative pain.

OBJECTIVE

To describe two patients with persistent postoperative occipital neuralgia successfully treated with greater occipital nerve blocks (GONBs).

METHOD

- Two post-neurosurgical patients with chronic occipital pain refractory to conservative/pharmacologic management.
- Targeted greater occipital nerve blocks using lidocaine and triamcinolone.
- Clinical response and duration of relief were assessed longitudinally.

Persistent occipital pain after neurosurgery may arise from an overlooked extracranial pain generator—even when neuroimaging is normal.

Greater occipital nerve blocks can provide <u>BOTH</u> diagnostic clarity and sustained therapeutic benefit.

CASE 1

43-year-old woman with Chiari I malformation and hydrocephalus developed chronic bilateral occipital pain after VP shunt revision and posterior fossa decompression.

- 15 headache days per month
- NRS 7–10/10
- Chiari I malformation + hydrocephalus (s/p VP shunt revision and posterior fossa decompression)

CASE 2

45-year-old man with traumatic brain injury and focal epilepsy developed chronic right-sided occipital and cervicogenic pain after craniotomy and neurostimulator implantation.

- NRS 5–6/10
- TBI + focal epilepsy (s/p craniotomy + neurostimulator implantation)
- Right-sided occipital + cervicogenic pain

RESULTS

- Both patients had no residual structural pathology on neuroimaging to explain symptoms.
- Failed multiple conservative and pharmacologic therapies (ie physical therapy, home exercises, heat/ice, NSAIDs, Acetaminophen)
- Received GONBs with lidocaine + triamcinolone.
- Demonstrated sustained clinical benefit for >6 months.

At 6 months, average pain scores improved by approximately 1–2 NRS points (~31–46% pain reduction).

CONCLUSION

- These cases demonstrate a radiographic–clinical dissociation.
- Persistent symptoms may reflect peripheral or extracranial pain generators rather than unresolved intracranial pathology.
- Surgical approaches and repeated procedures may contribute through nerve traction, compression, direct injury, or scar-related entrapment.

CLINICAL IMPLICATIONS

- Consider occipital nerve pathology when postoperative headache persists despite reassuring imaging.
- Occipital scar tenderness/dysesthesia; focal pain along a surgical tract; posterior neck/scalp pain in an occipital nerve distribution; failure of conventional headache therapies.