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## Greater occipital nerve blocks for the treatment of postdural puncture headache after labor epidural

Sir,

Postdural puncture headache (PDPH) is a common complication seen in the fields of anesthesiology and pain medicine. The headache occurs following a dural puncture and is thought to be related to a decrease in intracranial pressure causing a downward pull of brain structures along with vasodilation.<sup>[1]</sup> Patients typically develop orthostatic or positional headaches that can make it difficult to function or ambulate out of bed. The headache location varies, though it is generally occipital or frontal in nature.<sup>[2]</sup> Treatment options typically include conservative management such as fluids, caffeine, and a variety of analgesic medications. Epidural blood patch is a more invasive procedure that is often reserved for patients with severe and debilitating headaches, though it is regarded as the gold standard for treating this condition. Epidural blood patch helps relieve the headache by increasing the intracranial cerebrospinal fluid pressure along with patching the dural defect with a clot.<sup>[3]</sup> Although epidural blood patch is very effective, it is an invasive procedure that carries its own risks of complications including the possibility of additional dural punctures. Nerve blocks are a safe alternative and less invasive technique that may be used in the treatment of PDPHs.<sup>[4]</sup> We describe two cases of patients who suffered from PDPHs after labor epidurals who were successfully treated with greater occipital nerve blocks.

The first patient was a 29-year-old G3P3 who had an uncomplicated vaginal delivery with epidural analgesia. She had

a confirmed dural puncture during epidural placement and the epidural was placed at the interspace above the documented dural puncture. The second patient was a 25-year-old G1 who also had an uncomplicated vaginal delivery with an epidural using an intentional dural puncture technique.<sup>[5]</sup> Both patients reported severe positional headaches located in the occipital region starting on postpartum day 1. Both patients failed conservative management with hydration, caffeine, and oral analgesics including acetaminophen and NSAIDs. The patients reported 8/10 and 9/10 headaches on Numerical Rating Scale (NRS) pain scales when sitting or standing which resolved when laying supine. Both patients consented for greater occipital nerve blocks using landmark techniques. The patients underwent the nerve blocks with the use of 3 mL of 0.5% bupivacaine injected around each nerve approximately 2 cm lateral and 1 cm inferior to the external occipital protuberance after negative aspiration. The first patient reported complete resolution of symptoms within 5 min of the nerve block. She was able to ambulate without difficulty and required no additional therapy. The second patient reported significant improvement of her pain with an NRS 2/10 which lasted for 2 days. Her pain slowly progressed to NRS 5/10 on postpartum day 3, at which time the block was repeated. Her pain improved to 1/10 and she was able to be discharged with occasional acetaminophen use as needed on postpartum day 4.

Greater occipital nerve blocks are safe interventions that can be performed by anesthesiologists and should be considered

in the treatment algorithm for PDPH, especially when the headaches are not responsive to conservative therapy and occipital in location.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. There is no identifying information used in this article.

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**Conflicts of interest**

There are no conflicts of interest.

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