

# Greater occipital nerve block in migraine headache: Letter to editor

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To the Editor,

I have read the manuscript entitled "Greater occipital nerve block in migraine headache: Preliminary results of 10 patients" by Akin Takmaz et al.<sup>[1]</sup> published in Ağrı, issue number 20(1) of 2008, pp. 47-50. I should, firstly, congratulate the authors. Indeed, I want to offer some remarks about this manuscript.

In our opinion, greater occipital nerve (GON) block practice performed by the investigators should be promoted and additional precautions are necessary. The needle is inserted 2 cm lateral and 2 cm inferior to the external occipital protuberance in all cases. However, even skull size variation may cause failure of GON block or intraarterial local anesthetic injection.

Although the anatomy of the GON has been well described, its peripheral course varies and localization for the diagnosis and therapeutic treatment is difficult.<sup>[2]</sup> GON travels with the occipital artery to supply the integument of the scalp as far anterior as the vertex of the skull. The occipital nerve becomes superficial just inferior to the superior nuchal line and lateral to the occipital protuberance of the skull; at this point, the nerve is positioned medial to the pulse of the occipital artery, approximately one-third of the distance from the occipital protuberance to the mastoid. If the occipital artery is palpable on this line, then the local anesthetic is injected just medial to the pulse after negative aspiration of blood. Otherwise, the injection is made at the junction of the medial third and the lateral two-thirds of the line.<sup>[3]</sup> As the injection site is close to the foramen magnum, the needle should never be inserted medially.<sup>[4]</sup>

A few complications are associated with occipital nerve blocks. The local anesthetic itself creates swelling of the scalp, and the patient should be warned that this is normal. Puncture of the occipital artery is not uncommon, but if it occurs it can result in hematoma. A simple pressure by the patient may be applied. Patients with a history of blunt trauma to the area or prior posterior fossa intracranial surgery may have a defect in the bony cranium; in such cases, direct entry into the cranial vault may produce total spinal anesthesia.<sup>[5]</sup>

We suggest that the GON blockade described by the investigators should be performed in the operating room with standard monitoring, adequate equipment for resuscitation and intravenous access for better patient care. After palpating the occipital artery and negative aspiration of blood, GON blockade may be safer. Peripheral nerve stimulator might promote a better percentage of successful blocks in the presence of anatomical variations of the nerve.

## References

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