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Greater Occipital Nerve Block in Migraine: Efficiency and Safety, a Systematic Review

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Introduction

Migraine is a complex neurological disorder that can significantly impact the quality of life of many individuals. This condition can cause debilitation, intense pain, nausea, and high sensitivity to light and sound. Therefore, the study of techniques that enable the management of migraines represents an important measure for promoting the well-being of patients.

Objective

To investigate the efficacy and safety of the greater occipital nerve block technique in treating migraine.

Method

The established inclusion criteria included articles published from 1996 to 2023, utilizing the DeCS/MeSH descriptors "greater occipital block," "headache," and "treatment." These terms were combined using the Boolean operator "AND" for searches on the PubMed and Web Of Science platforms. The findings of these analyses have been compiled for the purpose of this review.

Results

Among the one hundred and eight articles obtained through the methodology, twelve were selected and subsequently analyzed by two different authors, following the PRISMA recommendations. In a study involving 55 patients with severe migraines, the greater occipital nerve (GON) block with lidocaine and triamcinolone demonstrated effectiveness in reducing the frequency of migraine attacks by 5.7 per month (p=0.002). This treatment was also more effective in cases of chronic migraines, showing significant reductions of approximately 60% in intensity (p=0.001) and 40% in attack frequency (p=0.001). The greater occipital nerve block is a promising option for the treatment of acute migraines in emergency departments, with a 64% reduction in pain perception 5 minutes after the application, without severe adverse effects. Both unilateral and bilateral techniques showed similar effectiveness, with 74% of patients undergoing 2 GON blocks having a significant response, compared to 36% of patients who received only 1 GON block. Side effects were mild and did not differ between groups, with only 4.5% of patients experiencing vasovagal symptoms during the injections, but no severe adverse effects were observed. The greater occipital nerve block with lidocaine is a safe alternative for patients with persistent moderate to severe headaches, with a rapid effect observed in 31% of patients after 30 minutes (p=0.035). Some disparities in results may be attributed to different studied populations, professional skills, and placebo effects.

Conclusion

The greater occipital nerve block is an effective technique for treating migraines, showing benefits for both acute pain episodes and chronic headache situations. Moreover, this technique has been proven safe for patients, with no severe side effects observed in any of the analyzed studies, and only a few mild side effects reported. Lastly, it's important to consider that disparities in results among some of the studies may be related to population differences, variations in healthcare professionals' skills, and placebo effects in some cases.

Keywords: migraine; treatment; review.