Cureus

Ultrasound-guided Greater Occipital Nerve block: an effective shot for chronic primary headaches? An observational study

Open Access
Abstract
Published 09/05/2024

Carlo Alberto Tramacere [1], Mariateresa Giglio [2], Angela Preziosa [3], Alberto Corriero [4], Filomena Puntillo [5]

1. Dipartimento Interdisciplinare di Medicina, Università degli Studi "Aldo Moro" Bari, Bari, ITA 2. Department of Intedisciplinary Medicine, Università degli studi di Bari, Bari, ITA 3. UO Anestesia e Rianimazione 2, Deto, Policlinico Universitario Bari, Bari, ITA 4. Department of Interdisciplinary Medicine (DIM), University of Bari Aldo Moro, Bari, ITA 5. Department of Intedisciplinary Medicine, University of Bari Aldo Moro, Bari, ITA

Corresponding author: Carlo Alberto Tramacere, carlo-alberto97@libero.it

Categories: Pain Management
Keywords: ultrasound-guided greater occipital nerve block

How to cite this abstract
Tramacere C, Giglio M, Preziosa A, et al. (September 05, 2024) Ultrasound-guided Greater Occipital Nerve block: an effective shot for chronic primary headaches? An observational study . Cureus 16(9): a1358

Abstract

INTRODUCTION: In recent years Greater Occipital Nerve (GON) block is becoming established as an effective and safe approach for chronic primary headaches and some secondary headaches burdened by low costs, minimal invasiveness and poor interactions with other pharmacological regimens. The present observational study aims to analyze the characteristics and the outcome of this technique on patients complaining of chronic headaches in terms of both pain and number of crises reduction, impact on patients' quality of life and quality of sleep.

METHODS: Adult patients referring to the Pain Center of Policlinico Hospital, Bari from January 2023 to April 2024 with an established diagnosis of chronic refractory headache were screened. The exclusion criteria were allergy to local anesthetic, injection site infections, exposed wounds of the affected region, congenital or acquired coagulopathies, Arnold-Chiari malformation, refusal to undergo the block. In each enrolled patient age, sex, diagnosis of headache, duration of onset of symptoms, quantity and dosage of medications were registered, together with the severity of pain (measured using the NRS scale), the number of crises per month, the Pittsburgh Sleep Quality Index (PSQI) and the Headache Impact Test (HIT-6). The variables were recorded both before the block (T0) and 4 weeks after (T1). The procedure was performed under ultrasound guidance at level C2 and a mixture of a long-acting local anesthetic associated with a low-dose of particulate corticosteroid was injected. The block was performed at the same side of the referred pain area or bilaterally in case of bilateral pain. Patients were clinically monitored for 30 minutes after the procedure to identify any early adverse effects. Then, follow-up control was set at 4 weeks. In all responders, i.e. those who reported a NRS reduction > 50% compared to T0 another control follow-up was planned at 8 and 12 weeks (T2 and T3) to evaluate the duration of the effectiveness of the single block.

RESULTS: During the study period 29 patients were recruited: 10 patients were diagnosed a chronic migraine, 7 a cervicogenic headache, 7 an occipital neuralgia and 5 a cluster headache. All of them took more than one drug but still reported an inadequate control of symptoms. Considering the whole population, at T1 the weekly NRS significantly reduced accompanied by a reduction of the number of crises per month ($p<0.05$). Furthermore, a statistical significative ($p<0.05$) lowering in HIT-6 score and PSQI was observed. 18 patients (62%) were classified as responders at T1, while the number of responders at T2 was 10 (34%) and at T3 was 3 (14%). The mean duration of a single block in responders was 8 + 3 weeks. None reported any adverse event within 30 minutes after the procedure or at the following visits.

CONCLUSIONS: The present study confirms that ultrasound guided GON block ensure a significant cranio-facial pain control in the 4 weeks after the procedure associated with a reduction of pain crises and an improved quality of life and sleep. However, our trial is not free of limitations that are related to the study design and the small sample size, which claim for further investigations about its long-term clinical effect and the potential role as a predictor for more invasive procedures.