

# TREATMENT OF CHRONIC MIGRAINE WITH INFILTRATIONS AND SPHENOPALATINE BLOCK: CASE REPORT

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**Abstract:** Chronic migraine is a debilitating condition that affects millions of people globally, significantly impacting patients' quality of life and productivity. This case report describes the management of a 42-year-old woman diagnosed with chronic migraine for 20 years, with no relevant comorbidities. The patient experienced 20 monthly episodes of mild pain and 4 of severe pain. Treatment included trigger point infiltrations with a solution of 0.25% levobupivacaine, 25% glucose, and 6.5 mg of dexamethasone, totaling 10 mL, and nasal sphenopalatine block with the same solution. Pharmacological treatment was supplemented with atenolol 25 mg daily. The infiltration and sphenopalatine block protocol was repeated after 21 days. After three months, a significant reduction in the frequency and intensity of attacks was observed, suggesting that the combination of infiltrations and pharmacological therapy is an effective strategy in the management of chronic migraine.

**Keywords:** chronic migraine; pain control; infiltration; sphenopalatine block; levobupivacaine; dexamethasone.

## Introduction

Chronic migraine is a common and disabling condition, characterized by frequent and prolonged headache attacks, often accompanied by symptoms such as nausea, vomiting, and photophobia (Silva AG, et al, 2020). Management involves a multimodal approach, combining

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pharmacological therapies and local interventions, such as infiltrations and nerve blocks, which have been shown to be effective in reducing pain and seizure frequency (Häuser W, et al, 2018).

### **Patient Information**

A 42-year-old female patient with no associated comorbidities was diagnosed with chronic migraine 20 years ago. He reported pulsatile pain lasting between 4 and 72 hours, accompanied by nausea and photophobia (Goadsby PJ, et al, 2002). She had a pattern of 20 monthly episodes of mild pain and 4 episodes of severe pain, with a significant impact on her quality of life and professional performance. Family history: mother with systemic arterial hypertension, father with systemic arterial hypertension and sister with migraine (Goadsby PJ, et al, 2002).

### **Clinical Findings**

Crises have intensified in the last five years, with an increasingly lower response to conventional pharmacological treatments (Häuser W, et al, 2018). The neurological evaluation did not show focal deficits, and the complementary tests were within the normal range, reinforcing the diagnosis of chronic migraine without aura (Goadsby PJ, et al, 2002).

### **Diagnostic Evaluation**

Based on the diagnostic criteria of the International Headache Society (IHS), the patient met the requirements for chronic migraine without aura. Differential diagnoses, such as cluster headache or tension headache, were ruled out by clinical evaluation and normal imaging tests (Goadsby PJ, et al, 2002).



## **Therapeutic Intervention**

Treatment included infiltrations at trigger points with 0.25% levobupivacaine solution, 25% glucose, and 6.5 mg dexamethasone (Sabbagh MN, et al, 2019). 20 trigger points were infiltrated, applying 0.5 mL per point, totaling 10 mL. Sphenopalatine block was performed nasally, using the same solution applied with an embedded swab, kept in contact for 10 minutes. After 21 days, the same protocol was repeated, aiming to enhance pain control (Sabbagh MN, et al, 2019). At the same time, prophylactic treatment with atenolol 25 mg/day was initiated (D'Amico D, et al, 2015).

## **Monitoring and Results**

The patient attended the first consultation on March 15, 2024, reporting about 20 episodes of mild migraine and 5 intense attacks in the last month. A protocol was initiated with infiltrations in trigger points and sphenopalatine ganglion blockade, associated with the use of atenolol 25 mg/day.

After 21 days (April 5, 2024), there was a partial reduction in symptoms, with 15 mild episodes and 3 intense crises, and the initial protocol was repeated.

In the first month (April 15, 2024), there were 10 mild episodes and 1 intense crisis.

In the second month (May 15, 2024), only 5 mild episodes and 1 intense crisis.

At the end of the third month (June 15, 2024), only 2 mild episodes and no intense seizures were observed.

This result demonstrates a progressive and sustained response to the multimodal treatment instituted, with a reduction of approximately 90% in the total frequency of seizures and complete elimination of intense seizures. The therapeutic response was highly positive, with a significant improvement in quality of life and a significant reduction in the use of analgesics.



## Discussion

Studies demonstrate the efficacy of trigger point infiltrations and nerve blocks in the management of chronic migraine, especially when combined with systemic prophylactic therapies (Häuser W, et al, 2018). Local anesthetics, such as levobupivacaine, associated with corticosteroids, such as dexamethasone, promote local anti-inflammatory effect and reduce central sensitization (Häuser W, et al, 2018). In addition, glycerol can act as an osmotic neuromodulator and as an aid in prolotherapy. In a randomized clinical trial, a nasal spray containing glycerol applied to the nasal mucosa formed a protective, osmotic film that significantly reduced the frequency and intensity of migraine attacks (Ferrante T, et al, 2018). In parallel, dextrose prolotherapy has been shown to be effective in reducing the frequency, intensity, and duration of seizures in patients with tension headaches and migraines, with improvement maintained up to 22 months after treatment (Rabago D, et al, 2017). Sphenopalatine block, described by Sabbagh et al. (2019), has a direct impact on parasympathetic fibers and the trigeminal nerve, involved in the pathophysiology of migraine (Tassorelli C, et al, 2017). Beta-blockers such as atenolol are also validated in prophylaxis, with proven benefit in reducing the frequency and intensity of seizures (Silva AG, et al, 2020). The case presented here reinforces the importance of a multimodal approach, combining local therapies (infiltrations and blockade), osmotic neuromodulation via glycerol and regenerative support by prolotherapy, added to systematic prophylactic therapy, to achieve effective and lasting control of chronic migraine.

## Patient Perspective

The patient described a relevant transformation in her routine after the beginning of treatment, highlighting a significant reduction in the limitations imposed by pain and greater freedom to resume daily activities previously compromised by crises. She reported improved physical and emotional disposition, a feeling of greater control over the disease and a positive impact on her social



and professional life. He also emphasized the ease of adherence to the proposed protocol and high satisfaction with the results achieved.

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