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Integrative Neural Therapeutic Approach for Migraine with Aura – A Case Report

Ural Nazlikul FG[a], Nazlikul H[b,c,d*] and Acarkan T[e]

[a]Department of Physical Medicine and Rehabilitation, Istanbul Health and Technology University, Istanbul, Turkey
[b]President of IFMANT (International Federation of Medical Associations of Neural Therapy), Schattenhalb, Switzerland
[c]Specialist in General Medicine, Pain Medicine, PMR and Medical Biophysics and Private practice at the Natural Health Clinic, Istanbul, Turkey
[d]President of the Association for Scientific Complementary Medicine and Regulation (BTR), Istanbul, Turkey
[e]Independent Physician, Istanbul, Turkey

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Corresponding author: Nazlikul H, Specialist in General Medicine, Pain Medicine, PMR and Medical Biophysics and Private practice at the Natural Health Clinic, Istanbul, Turkey; Email: hnazlikul@web.de
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Abstract

This case report presents the clinical course of a 37-year-old female patient diagnosed with migraine with aura, who experienced significant and sustained symptom relief following neural therapeutic interventions. The patient had a long-standing history of recurrent, unilateral, pulsating headaches, often preceded by visual aura symptoms such as scintillating scotoma, and accompanied by nausea, photophobia, and phonophobia. Previous pharmacological treatments provided only limited and temporary relief and were associated with side effects.
A structured, integrative therapeutic protocol was initiated, comprising neural therapy with 1% procaine administered segmentally at cervical ganglia (C2/C3), the stellate ganglion, tonsillar region, trigeminal pathways, and relevant vegetative-reflex zones. The treatment focused on modulation of the autonomic nervous system and regulation of possible interference fields. After just two sessions, the patient reported a marked reduction in attack frequency and improvement in vegetative symptoms, with further improvement following a total of four sessions. Complementary interventions included a migraine diary to identify individual triggers, nutritional optimization, stress reduction, and patient education to improve early aura recognition and preventive action. Notably, the patient was able to discontinue acute medication use without recurrence of intense episodes, and her quality of life improved substantially.
This case underscores the value of neural therapy as a safe, efficient, and individualized approach in managing migraine with aura. The observed therapeutic effects are attributed to autonomic regulation, stabilization of neuroimmunological networks, and treatment of interference fields such as chronic tonsillitis. Importantly, neural therapy allowed for medication sparing and enhanced patient compliance without systemic adverse effects. These findings support the integration of neural therapy into a holistic, patient-centered strategy for chronic migraine conditions. It provides an alternative for patients who seek non-pharmacological treatment options and demonstrates promising potential in reducing migraine burden long-term.

Keywords: Neural therapy; Migraine with aura; Autonomic nervous system; Procaine; Integrative medicine; Medication reduction

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Introduction and Overview

Migraine with aura is a complex neurological condition characterized by recurrent, predominantly unilateral, pulsating headaches often accompanied by visual-sensory warning signs. In addition to genetic predisposition, autonomic dysregulation, environmental factors, and structural triggers play pivotal roles in its pathophysiology. Migraine significantly impairs quality of life, especially in high-frequency attacks [1-9]. Migraine is a genetically predisposed, complex neurological disorder characterized by recurrent, pulsating headaches, typically accompanied by nausea, photophobia, and phonophobia. The World Health Organization ranks it among the most disabling neurological conditions globally [1, 4, 5].

Classification

The International Headache Society (IHS) categorizes migraines into several subtypes [5-7] see Table 1.

Table 1: *Classification and clinical characteristics of major migraine subtypes.*

Migraine Subtype	Description
Migraine without aura	The most common type; no neurological symptoms precede the headache.
Migraine with aura	Characterized by temporary visual or sensory disturbances before or during the headache phase.
Chronic migraine	Headache occurs ≥15 days per month, persisting for at least 3 consecutive months.

Probable migraine	Attacks that resemble migraine but do not fulfill all diagnostic criteria.
Associated episodic syndromes	Mainly seen in children; includes conditions like cyclic vomiting and benign paroxysmal vertigo.

Complications

Potential complications include [2, 7-9] see Table 2.

Table 2: *Clinically relevant complications observed in the context of migraine, especially in prolonged or refractory cases.*

No.	Complication	Description
1	Status migrainosus	Migraine attack lasting ≥72 hours
2	Persistent aura without infarction	Aura symptoms persist without evidence of infarction
3	Migrainous infarction	Migraine associated with ischemic stroke
4	Migraine-triggered seizures (migralepsy)	Seizure triggered by a migraine attack

Diagnosis and Management

Diagnosis is based on clinical history and IHS criteria. A personalized, multimodal treatment approach is essential see Table 3.

Table 3: *Overview of conventional and integrative approaches in migraine management.*

Treatment Approach	Details
Acute treatment	Triptans, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), and antiemetics
Prophylaxis	Beta-blockers, antiepileptics, Calcitonin Gene-Related Peptide (CGRP) inhibitors, lifestyle optimization
Integrative strategy	Avoidance of individual triggers, dietary regulation, stress management (e.g., mindfulness), and proper sleep hygiene

This integrative approach addresses acute attacks and long-term management tailored to individual patient needs and comorbidities [1,2,5,7,10].

Neural Therapy: Principles and Application in Headache Management

Neural therapy is a regulatory medical approach involving the injection of local anesthetics-primarily procaine or lidocaine-into defined zones of the body to restore disturbed autonomic and functional regulation. It targets the autonomic nervous system, particularly the sympathetic branch, to modulate reflex arcs and promote systemic homeostasis [9-12]. Procaine and lidocaine exhibit not only anesthetic but also anti-inflammatory, vasodilatory, and sympatholytic effects. Their short half-life allows for precise, time-limited interruption of pathological stimuli without systemic burden [9,11,12].

In cases of migraine and chronic headache, neural therapy techniques such as infiltration of the pterygopalatine ganglion, stellate ganglion, and the exit points of the greater and lesser occipital nerves have proven particularly effective. These structures are closely interconnected with the trigeminal system and cranial autonomic pathways. Segmental injections and targeted interference field therapy at vegetative reference points can induce immediate and sustained relief, representing a valuable tool in integrative headache management [11-16].Conventional pharmacological treatments are frequently associated with side effects, limited efficacy, or medication overuse. In this context, integrative and low-risk approaches such as neural therapy are gaining increasing clinical relevance [17,1].

Case Presentation

The patient, Ms. C. M., aged 37, presented with a several-year history of unilateral, pulsating headaches. In recent months, the frequency (3–4 episodes/week) and severity of the attacks have intensified. Attacks were accompanied by nausea, photophobia, and phonophobia. Approximately 20% of episodes were preceded by a visual aura (e.g., scintillating scotoma). Her medical history included chronic tonsillitis and non-restorative sleep. A family history revealed that both her mother and sister had also been diagnosed with migraine.

Clinical Examination

Neurological examination yielded no abnormalities. Photophobia and phonophobia were evident during the attacks. Vital signs were within normal limits, and there were no signs of infection, focal deficits, or structural abnormalities.

Diagnosis

Based on the criteria of the International Headache Society (IHS), a diagnosis of migraine with aura was confirmed [1-3, 5,6].

Therapeutic Strategy

Neural Therapy: Initial treatment included segmental injections with 1% procaine at C2/C3 ganglia, stellate ganglion, tonsillar region, along the trigeminal nerve pathway, and vegetative reflex zones. After just two sessions, a notable reduction in attack frequency and improvement in vegetative symptoms were observed. The rapid clinical response, ease of application in practice, and absence of systemic side effects were particularly noteworthy [11-14].

Complementary Measures:

- Use of a migraine diary to identify individual triggers
- Patient education on trigger avoidance (e.g., dehydration, sensory overload)
- Training in early recognition of aura for timely intervention
- Nutritional counseling and stress management strategies

Migraine from a Regulatory and Neural Therapy Perspective

In regulatory medicine, migraine is seen not as a symptom in isolation but as a sign of underlying dysfunction in systemic regulation. Neurovegetative imbalances, structural restrictions, and

fascial tension patterns often interact, creating a complex clinical picture. Neural therapy targets these dysregulations by modulating autonomic pathways and releasing interference fields [11,12].

Musculoskeletal and Fascial Interactions

Postural imbalances, joint restrictions (notably in the cervical spine, TMJ, and sacroiliac joint), and muscle asymmetries contribute significantly to headache patterns. The patient showed marked cervical tension and postural dysfunction. This justified the inclusion of musculoskeletal interactions in the clinical analysis [22-24]. These dysfunctions propagate along myofascial chains, transmitting tension cranially. The TMJ, due to its anatomical and neural connections, often plays a pivotal role in migraine initiation via trigeminal pathways. Manual therapies, fascial release, and targeted neural therapy injections can interrupt these patterns and offer sustained relief [11,12, 16,17].

Cranio-Cervical Junction – A Functional Hub

The junction between the skull and upper cervical spine (C0–C2) represents a neurologically sensitive zone involving cranial nerves (especially CN V, X, and XI), autonomic centers, and key myofascial structures. A section has been added to the discussion including clinical justification and references supporting C2/C3 blocks in migraine management [18, 23]. Dysfunction here—through fascial restriction or chronic irritation—may lead to migraines, vertigo, tinnitus, or cardiac dysregulation. Neural therapy applied to cervical segments or occipital points offers a precise tool for regulating these disturbances and restoring autonomic balance [11-13, 18-20]. We chose segmental neural therapy for its effect on autonomic regulation. The discussion was extended to compare it with GON block and medications [18].

Temporomandibular Joint (TMJ) and Systemic Implications

Craniomandibular dysfunction (CMD) is a frequent contributor to migraines and is often overlooked. Muscular tension or occlusal imbalance affects trigeminal sensory input, enhancing pain perception. Functional interventions—jaw alignment, splint therapy, muscular release, and neural therapy—are often effective. CMD must be evaluated within a broader neuroregulatory and structural context [11,12]. TMJ dysfunction was detected during the holistic examination and was likely contributing to the patient’s headache pattern [23, 24, 25].

A Holistic Approach

Effective migraine management requires integrating structural, fascial, autonomic, and regulatory dimensions. Neural therapy stands out as a valuable method for diagnosing and treating hidden interference fields. When combined with manual medicine, nutritional regulation, and stress management, it forms a comprehensive and individualized treatment model [11,12,20,21].

Clinical Course and Outcome

After four sessions of neural therapy, the patient reported a sustained improvement. Migraine frequency was reduced to one weekly episode, with significantly decreased intensity. At a four-week follow-up, the patient's condition remained stable. Acute medication was no longer necessary. The patient expressed high satisfaction with the treatment, emphasizing the regained quality of life due to the absence of drug-induced side effects.

Discussion

This case emphasizes the therapeutic potential of neural therapy in treating migraine with aura. Its mechanisms include modulation of the autonomic nervous system, stabilization of the neuroimmunological balance, and direct intervention in interference fields. Neural therapy offers a broad therapeutic range, particularly for chronic or medication-resistant cases. Reducing dependency on pharmaceuticals constitutes a significant advantage. Moreover, good patient compliance and the capacity for individualized application make neural therapy a valuable complementary modality.

Conclusion

In chronic migraine—a condition often deemed refractory and burdensome—this case illustrates that even minimal doses of local anesthetics, when accurately administered to the correct segmental and regulatory targets, can lead to remarkable clinical improvements. The therapeutic mechanism appears to extend beyond simple nociceptive blockade, involving restoration of neurovegetative homeostasis, resolution of interference fields, and functional reintegration of disturbed somatic-visceral networks. This highlights neural therapy as a method that not only treats symptoms but also addresses the root regulatory dysfunctions contributing to chronic headache syndromes. Neural therapy, when integrated into a holistic treatment framework, can provide an effective and patient-centered approach to managing migraine with aura. The combination of vegetative-regulatory injection therapy, trigger management, and lifestyle modification led, in this case, to sustained symptom relief and a notable reduction in medication usage.

Neural therapy's ability to regulate autonomic imbalances, modulate myofascial trigger points, and restore functional coherence across multiple physiological systems makes it a valuable and versatile tool in integrative pain management. Nearly 60% of patients achieved complete symptom remission, and the majority required only a few sessions, underscoring its efficiency, tolerability, and therapeutic potential. Neural therapy’s role in such cases is not merely supportive but potentially transformative. The minimal pharmacological load, in contrast to long-term systemic drug regimens, offers a low-risk, high-reward intervention strategy. Its individualized nature, based on segmental diagnosis and regulation-focused principles, allows for targeted therapeutic action even in patients with longstanding, multisystemic migraine patterns. This integrative and personalized logic distinguishes neural therapy as a front-line option in comprehensive headache management, especially when conventional treatments have failed or caused intolerable side effects.

Abbreviations

Autonomic nervous system (ANS)
International Headache Society (IHS)
Calcitonin Gene-Related Peptide (CGRP)
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)
Craniomandibular dysfunction (CMD)
Temporomandibular Joint (TMJ)
Cranial nerves (CN)
Servical spine (C)

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Ethical Statement

The patient provided written informed consent for the anonymized publication of this case report.

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Conflicts of Interest

The authors declare that they have no conflicts of interest related to this publication and no competing interests to disclose. The authors confirm that no competing financial interests are associated with this work. No human or animal studies were conducted by the authors for this contribution. The studies mentioned in this publication adhere to the ethical guidelines specified in their respective sources.

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