Radiology Case Reports 19 (2024) 3545–3547

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/radcr

Case Report

Multiple sclerosis relapse presenting as trigeminal neuralgia ☆,☆☆

Meheroz H. Rabadi, MD, MRCPI, FAAN, FANA[a,b,*]

[a] *Oklahoma City VA Medical Center, OK, USA*
[b] *Department of Neurology at the Oklahoma University Health Sciences Center, OK, USA*

ARTICLE INFO

Article history:
Received 30 April 2024
Revised 6 May 2024
Accepted 10 May 2024

Keywords:
Multiple sclerosis
Trigeminal neuralgia
Magnetic resonance imaging
Carbamazepine

ABSTRACT

I present here a case of trigeminal neuralgia (TGN), which is a highly disabling disorder characterized by brief and recurrent shock-like episodes of facial pain. TGN occurs in 2% of people with MS. A 54-year-old woman diagnosed with multiple sclerosis (MS) in 2008 and who was in remission stopped taking her disease-modifying therapy (DMT) in 2018 due to a lack of relapses presented to our facility with excruciating right facial pain. Magnetic resonance imaging (MRI) of the brain with gadolinium showed enhancing plaque involving the proximal cisternal portion of the right trigeminal nerve on axial and sagittal sections. She was started on carbamazepine 300 mg 4 times a day. This case highlights the need for early diagnosis by MRI with gadolinium enhancement and prompt initiation of treatment helped her pain to subside and was able to return a week later to the MS clinic to be restarted on her prior DMT to prevent further MS relapses.

Case presentation

A 54-year-old woman diagnosed with multiple sclerosis (MS) in 2008 (Fig. 1) presented to the multiple sclerosis clinic with a 6-week history of progressively worsening right facial pain. She stopped taking her DMT in 2018 due to a lack of MS relapses. As per the patient, her right facial pain was triggered by touch, sniffles, chewing, brushing teeth, and water touching the face; lancing/electric, and worse than 10/10 in severity. On evaluation, she had lost 15 pounds in weight (as she restricted herself to a liquid diet). Neurological examination was normal except for wincing on testing the trigeminal distribution (V1, V2) to light touch. A clinical diagnosis of trigeminal neuralgia (TGN) was made. Magnetic resonance imaging (MRI) of the brain with gadolinium showed enhancing plaque involving the proximal cisternal portion of the right trigeminal nerve on axial and sagittal sections (Figs. 2A and B, denoted by arrow). She was started on carbamazepine 300 mg 4 times a day. Her pain subsided and returned a week later wanting to be re-started on her prior DMT to prevent further MS relapses.

☆ Competing Interests: The author declares no competing financial interests or personal relationships to influence the work reported in this paper.
☆☆ Acknowledgments: None.
* Corresponding author.
E-mail addresses: rabadimh@gmail.com, meheroz.rabadi@va.gov
https://doi.org/10.1016/j.radcr.2024.05.035

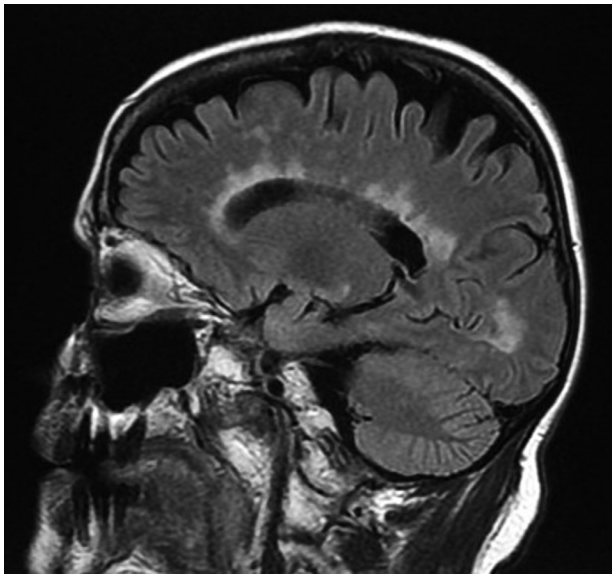

Fig. 1 – Head MRI Sagittal T2 FLAIR shows periventricular Multiple sclerosis plaque lesions.

Discussion

This case report highlights (1) Stopping or non-adherence to DMT increases relapse rate by 20% to 40%, MS-related hospitalization by 12% [1–3], and disability progression [4]. (2) Relapses usually mirror the initial MS presentation, however; in this case, it presented as trigeminal neuralgia (TGN). TGN is a highly disabling disorder characterized by brief and recurrent shock-like episodes of facial pain. These episodes are triggered by innocuous stimulation of the face and intraoral mucosa on the side of the pain in more than 90% of cases [5]. TGN has a higher prevalence of approximately 2% in people with MS compared to the general population [6]. MRI of the brain with gadolinium enhancement is considered the gold standard in diagnosing TGN and differentiating other secondary causes of TGN [7]. Carbamazepine and oxcarbazepine are considered first-line treatment options for TGN. They provide pain control in almost 90% of patients [8], Their advantage is that regular monitoring of serum drug concentrations is not required; in most patients, and the drug dose can be titrated or tapered based on clinical response and adverse effects.

Patient consent

Signed Informed consent was obtained from the patient for this case to be published.

Author Contributions

Dr. Meheroz H. Rabadi: Study concept and design.

Data acquisition

Analysis and interpretation.

Write-up of the manuscript for intellectual content.

Study supervision

Signed informed consent was obtained from the patient.

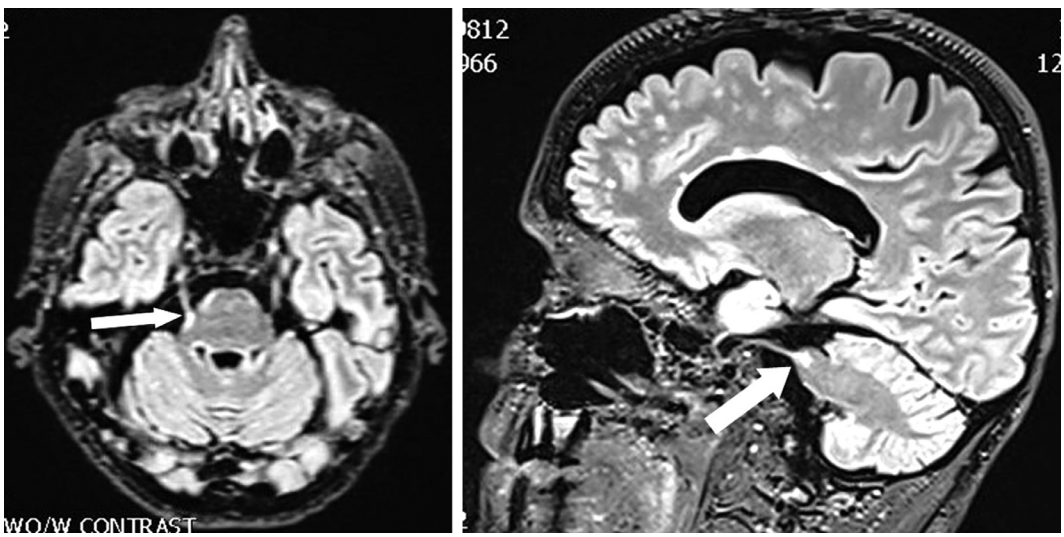

Fig. 2 (A) – Head MRI Axial T2 FLAIR shows enhancing plaque involving the proximal cisternal portion of the right trigeminal nerve (Arrow). (B) Head MRI Sagittal T2 FLAIR shows enhancing plaque involving the proximal cisternal portion of the right trigeminal nerve (Arrow).

Dr. Meheroz H. Rabadi reports no disclosures or conflicts of interest.

REFERENCES

[1] Tan H, Cai Q, Agarwal S, Stephenson JJ, Kamat S. Impact of adherence to disease-modifying therapies on clinical and economic outcomes among patients with multiple sclerosis. Adv Ther 2011;28:51–61.

[2] Burks J, Marshall TS, Ye X. Adherence to disease-modifying therapies and its impact on relapse, health resource utilization, and costs among patients with multiple sclerosis. Clinicoecon Outcomes Res 2017;9:251–60.

[3] Ivanova JI, Bergman RE, Birnbaum HG, Phillips AL, Stewart M, Meletiche DM. Impact of medication adherence to disease-modifying drugs on severe relapse, and direct and indirect costs among employees with multiple sclerosis in the US. J Med Econ 2012;15:601–9.

[4] Siger M, Durko A, Nicpan A, Konarska M, Grudziecka M, Selmaj K. Discontinuation of interferon beta therapy in multiple sclerosis patients with high pre-treatment disease activity leads to a prompt return to previous disease activity. J Neurol Sci 2011;303(1-2):50–2.

[5] Di Stefano G, Maarbjerg S, Nurmikko T, Truini A, Cruccu G. Triggering trigeminal neuralgia. Cephalalgia 2018;38(6):1049–56.

[6] De Simone R, Marano E, Brescia Morra V, Ranieri A, Ripa P, Esposito M, et al. A clinical comparison of trigeminal neuralgic pain in patients with and without underlying multiple sclerosis. Neurol Sci 2005;26(Suppl 2):s150–1.

[7] Bendtsen L, Zakrzewska J M, Abbott J, Braschinsky M, Di Stefano G, Donnet A, et al. European Academy of Neurology guideline on trigeminal neuralgia. Eur J Neurol 2019;26(6):831–49.

[8] Gronseth G, Cruccu G, Alksne J, Argoff C, Brainin M, Burchiel K, et al. Practice parameter: the diagnostic evaluation and treatment of trigeminal neuralgia (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology and the European Federation of Neurological Societies. Neurology 2008;71:1183–90.