

Carbamazepine in Treatment of trigeminal neuralgia

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Abstract

Background: Trigeminal neuralgia (TN) is a clinical condition characterized by a sudden, usually unilateral, brief, stabbing, and recurrent pain with a distribution consistent with one or more divisions of 5th cranial nerve. The guidelines on pharmaceutical TN management published by the American Academy of Neurology and the European Federation of Neurological Societies recommend Carbamazepine (CBZ; 200–1200 mg/day) as first-line therapy. **Objective:** The objective of this study was to study the role of CBZ in the treatment of TN. **Methods:** The study was carried out in the department of Oral Medicine and Radiology of Patna Dental College and Hospital with patient informed consent. Four hundred and thirty-eight patients (265 males and 173 females) were examined with various complaints among which 14 (four males and ten females) of them presented with classical TN who had treatment with CBZ. **Results:** In this study, the prevalence of TN was 19 % among total number of patients selected. Out of the 14 patients suffering with TN, ten of them were full responders to CBZ, three of them responded partially, and remaining one was non-responder. **Conclusion:** In our study, we found that classic TN was most common in age group of 45–60 years with female predominance. It also shows that majority of patients of TN show satisfactory and adequate relief from CBZ.

Keywords: Carbamazepine, Non-responders, Partial responders, Responders, Trigeminal neuralgia.

INTRODUCTION

Trigeminal neuralgia (TN) is a clinical condition characterized by a sudden, usually unilateral, brief, stabbing, and recurrent pain with a distribution consistent with one or more divisions of 5th cranial nerve.^[1] It is an excruciating, short lasting (<2 min), and unilateral facial pain that may be spontaneous or triggered by gentle, innocuous stimuli, and separated by pain-free interval of varying duration. Diagnosis in typical cases is usually straightforward. However, most patients suffer from misdiagnosis.^[2] The annual overall incidence of TN ranges from 12.6/100,000 to 27/100,000 people per year, with an increase in incidence with advancing age.^[3] The guidelines on pharmaceutical TN management published by the American Academy of Neurology and the European Federation of Neurological Societies recommend Carbamazepine (CBZ; 200–1200 mg/day) as first-line therapy.^[4] Other drugs such as Gabapentin are also an alternative drug which has also shown promising results in relieving some forms of neuropathic pain.

The aim of the present study was to analyze the number of responders to CBZ and its side effects, onset, or its dosage reduction.

MATERIALS AND METHODS

The study was carried out in the Department of Oral Medicine and Radiology of Patna Dental College and Hospital with

patient informed consent. Four hundred and thirty-eight patients (265 males and 173 females) were examined with various complaints among which 14 of them presented with classical TN who had treatment with CBZ. Other facial pain, trigeminal neuropathy, tumors, and multiple sclerosis were excluded from the study. Out of 14 people, ten were female and four were male. The age of onset ranged from 24 to 65 years. The starting dose of CBZ was 100 mg, 3 times/day and was increased until the pain was controlled or side effects developed. Those who did not respond to CBZ or who developed intolerable side effects, they were treated with other drugs, alcohol injection, or surgical procedures.

RESULTS

In our study, the prevalence of TN was 19 % among total number of patients selected (Table 1). Out of the 14 patients suffering with TN, ten of them were full responders to CBZ, three of them responded partially, and remaining one was non-responder (Table 2). The percentage of responders was 92%

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Received: Nov. 05, 2022; **Accepted:** Dec. 12, 2022; **Published:** Dec. 13, 2022

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How to cite this article: Gaurav M, Monika, Anwar S, Jha PK, Kumari S. Carbamazepine in Treatment of trigeminal neuralgia. J Res Adv Dent 2022;13(6):26–27.

Access this article online

Website:
www.jrad.co.in

DOI:
<https://doi.org/10.53064/jrad.2022.13.6.290>

with CBZ initially at small dose of 100mg thrice/day. Among responders to CBZ, 21.4% of patients were relieved from pain at the dose of 200 mg thrice/day. The remaining one patient (7.14%) who did not respond adequately to CBZ was treated with other drugs (Table 3).

DISCUSSION

When CBZ under the guise of G32883 was initially reported as relieving TN (Blom, 1962), new era in the treatment of this condition started.^[5,6] The first reports of its use in UK (Taylor 1963; Spillane 1964; Graham and Zilkha 1966) confirmed that its efficacy and CBZ are now generally regarded as the drug of choice for the treatment of TN.^[7-9] The present result supports this: Pain being satisfactorily controlled by CBZ in 71.42% of the patients. Demographics matched those observed in previous studies,^[9] with higher frequency in women (71.42%) and an average onset of age at 60 years.^[9]

Table 1: Prevalence of Trigeminal neuralgia according to gender

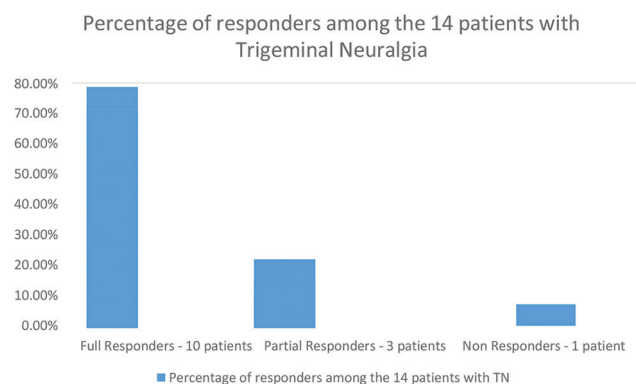
Gender	Number	Affected	Prevalence
Male	265	4	28.57%
Female	173	10	71.42%

Table 2: Prevalence of trigeminal neuralgia according to age group

Age group	Affected	Prevalence
24–34 years	0	0
35–44 years	1	7.14%
45–54 years	8	57.14%
55–64 years	5	35.71%

Table 3: Percentage of responders among the 14 patients with Trigeminal neuralgia

	Number of patients	Percentage (%)
Full responders	10	71.42%
Partial responders	3	21.42%
Non-responders	1	7.14%



Similar with other reports, the percentage of non-responders was lower in our sample.^[10,11] The majority of the patients, however, could tolerate CBZ. In our study, also none of them showed any major side effects. Small maintenance dose of CBZ (100–200 mg) twice and thrice daily was somewhat sufficient, but the commonest dose was 200 mg thrice daily without any side effects.

Table 1 shows that prevalence of TN was 28.57% in males and 71.42% in females.

Table 2 shows that prevalence of TN in 35–44 years was 7.14%. In 45–54 years was 57.14% and 55–64 years was 35.71%.

Table 3 shows that percentage of responders to CBZ among the patients of TN.

CONCLUSION

In our study, we found that classic TN was most common in age group of 45–60 years with female predominance. It also shows that majority of patients of TN show satisfactory and adequate relief from CBZ. This evidence supports CBZ as the first choice of drug for treatment of TN.

ACKNOWLEDGMENT

The author would like to acknowledge the immense help received from scholars, where articles are cited and included in reference of this manuscript.

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