International Journal of Life Sciences, Biotechnology and Pharma Research Vol. 13, No. 10, October 2024 Online ISSN: 2250-3137
Print ISSN: 2977-0122

DOI: 10.69605/ijlbpr_13.10.2024.95

Original Research

Carbamazepine and combination of carbamazepine with baclofen in the management of trigeminal neuralgia- A clinical study

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Received Date: 11 August, 2024 Accepted Date: 26 September, 2024

ABSTRACT

Background: The most prevalent type of neuralgia is trigeminal neuralgia (TN). Other names for it include tic-douloureux, Fothergill's illness, and tri facial neuralgia. The present study compared carbamazepine and combination of carbamazepine with baclofen in the management of trigeminal neuralgia.

Materials & Methods: 72 patients of trigeminal neuralgia of both genders were divided into 2 groups. Each group had 36 patients. Group I patients received 600–800 mg/day carbamazepine twice daily and group II received 600 mg/day carbamazepine plus baclofen 10–20 mg/day twice daily. Patients were recalled after 7 days, 15 days and 30 days.

Results: Group I had 14 males and 22 females and group II had 15 males and 21 females. The mean pain score on VAS at baseline was 9.6 in group I and 9.4 in group II, at 7 days was 6.2 in group I and 5.1 in group II, at 15 days was 5.1 in group and 3.7 in group II and at 1 month was 3.4 in group I and 1.5 in group II. The difference was significant ($P< 0.05$).

Conclusion: In patients with trigeminal neuralgia, carbamazepine plus baclofen reduces pain more effectively than carbamazepine alone.

Keywords: baclofen, Carbamazepine, Trigeminal neuralgia

Introduction

The most prevalent type of neuralgia is trigeminal neuralgia (TN). Other names for it include tic-douloureux, Fothergill's illness, and tri facial neuralgia. Although it can happen at any age, tic douloureux is more commonly observed in persons over 50. Its origin is unknown.[1] Severe, lancinating, and electric-like episodes of recurrent, unilateral face pain that are limited to the trigeminal nerve's distribution and last only a few seconds are the hallmark of TN.3. The patient may be completely asymptomatic during episodes, and this pain seldom ever happens when they are sleeping.[2]

Since TN causes the most excruciating pain, it is the oral physician's duty to properly manage the patients.[3] The American Academy of Neurology's 2008 guidelines, published by the European Federation of Neurological Societies, state that medical therapy must be initiated as soon as TN is identified and that surgery should be considered if the medication does not work.[4] In TN, where carbamazepine and oxcarbazepine are acknowledged as the first line therapy, a variety of pharmaceutical therapeutic agents have been found to be beneficial in managing the symptoms.[5] Baclofen, lamotrigine, gabapentin, pregabalin, topiramate, phenytoin, levetiracetam, botulinum toxin A, and capsaicin are among the other pharmacotherapeutic drugs used to treat TN.[6] The present study compared carbamazepine and combination of carbamazepine with baclofen in the management of trigeminal neuralgia.

Materials & Methods

The present study comprised of 72 patients of trigeminal neuralgia of both genders. All were informed regarding the usefulness of the study and those who willingly gave their written consent for the participation in the study were selected.

Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups. Each group had 36 patients. Group I patients received 600–800 mg/day carbamazepine twice daily and group II received 600 mg/day carbamazepine plus baclofen 10–20 mg/day twice daily. Patients were recalled after

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7 days, 15 days and 30 days. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table: I Distribution of patients

Groups	Group I	Group II
Drug	carbamazepine	carbamazepine + baclofen
M:F	14:22	15:21

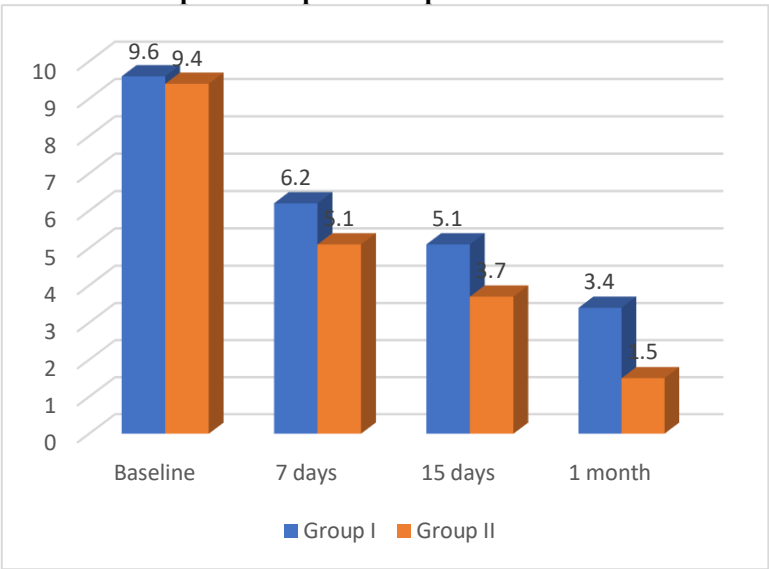
Table I shows that group I had 14 males and 22 females and group II had 15 males and 21 females.

Table: II Comparison of pain score on VAS

Time period	Group I	Group II	P value
Baseline	9.6	9.4	0.97
7 days	6.2	5.1	0.36
15 days	5.1	3.7	0.05
1 month	3.4	1.5	0.01

Table II, graph I shows that mean pain score on VAS at baseline was 9.6 in group I and 9.4 in group II, at 7 days was 6.2 in group I and 5.1 in group II, at 15 days was 5.1 in group and 3.7 in group II and at 1 month was 3.4 in group I and 1.5 in group II. The difference was significant (P< 0.05).

Graph: I Comparison of pain score on VAS



Discussion

"The most terrible pain known to man" is a common description of trigeminal neuralgia. One or more branches of the fifth cranial nerve may be affected; the maxillary branch is most frequently affected, while the ophthalmic branch is least frequently affected.[7,8] The right side of the face was more frequently affected than the left, which may be explained by the right side's narrower foramens (rotundum and ovale).[9] The International Headache Society (IHS) describes it as a painful unilateral facial ailment that is restricted to the distribution of one or more trigeminal nerve divisions and is characterized by a transient electric shock-like discomfort.[10,11] Commonly, insignificant activities like talking, smoking, grooming, washing, and brushing the teeth, but may also occur spontaneously. The pain is abrupt in onset and termination, and may remit for varying periods.[12,13] The present study compared carbamazepine and combination of carbamazepine with baclofen in the management of trigeminal neuralgia.

We found that group I had 14 males and 22 females and group II had 15 males and 21 females. Tatli et al[14] studied twenty-eight studies, mostly including microvascular decompression (MVD) and radiofrequency thermorhizotomy (RF-TR). The efficacy of MVD and percutaneous balloon microcompression (PBC) were similar, and their effects were superior to those of the other modalities (P < 0.001). Although RF-TR provided a high initial pain relief, its average pain free rate was 50.4% for a mean follow-up of 5 years. The recurrence rate was high after RF-TR (46%), while the lowest recurrence

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rate (18.3%) was after MVD (P < 0.001). Within the long-term follow-up period recurrence of pain affects at least 19% of patients who undergo any surgical treatment for TN.

We observed that mean pain score on VAS at baseline was 9.6 in group I and 9.4 in group II, at 7 days was 6.2 in group I and 5.1 in group II, at 15 days was 5.1 in group and 3.7 in group II and at 1 month was 3.4 in group I and 1.5 in group II. In their study, Taylor et al[15] analyzed 143 patients who had trigeminal neuralgia while taking carbamazepine (CBZ) over a 16-year period. In 99 individuals (69%), the medication was initially helpful with minimal moderate adverse effects. Of them, 19 needed alternate methods after developing resistance later, that is, between two months and ten years after starting treatment. The medication worked for 49 of the remaining 80 patients (56%) for 1–4 years and for 31 of the patients (5–16 years). Eight patients (6%) were intolerant to CBZ, and 36 patients (25%) did not respond to the medication at first and needed alternative therapies. One patient experienced hyponatraemia and water intoxication brought on by CBZ. Following this, hyponatraemia was ruled out in 17 patients who had taken CBZ for four months to seven years.

According to Haanpaa et al[16], the capsaicin 8% patch had a quicker onset of action, less systemic adverse effects, and higher treatment satisfaction than an optimal dose of pregabalin for neuropathic pain. Anticonvulsants and skeletal muscle relaxants are the main medical treatments for TN. The first line of treatment for TN is carbamazepine, often known as Tegretol. The majority of patients responded to 200–800 mg daily in two or three divided doses, with dosages ranging from 100–1,200 mg daily. Anticonvulsant medications have been linked to serious side effects, including hematological reactions that have resulted in death. Impaired mental and motor performance are the most frequent side effects, which may restrict clinical use, especially in older adults. A skeletal muscle called Baclofen, a skeletal muscle relaxant has also been shown to be effective.

Another study conducted by Puri et al observed that carbamazepine in combination with baclofen is more efficient and effective in reducing pain in TN patients, followed by carbamazepine-capsaicin combination compared to carbamazepine alone.[16]

The limitation the study is small sample size.

Conclusion

Authors found that in patients with trigeminal neuralgia, carbamazepine plus baclofen reduces pain more effectively than carbamazepine alone.

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