

Effect of Oral Gabapentin and Pregabalin in the Management of Neuropathic Pain in Palliative Care Patients: An Institution-based Comparative Study

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ABSTRACT

Background: Gabapentin and pregabalin are antiepileptic drugs used in the treatment of neuropathic pain. They are used as adjuvants with analgesics in the management of pain.

Aims and objectives: We aimed to compare gabapentin and pregabalin's role in neuropathic pain in cancer patients.

Materials and methods: This prospective, comparative study included 100 patients having neuropathic pain, undergoing cancer treatment in Mahatma Gandhi Hospital.

Results: The mean age of patients was 38.2 ± 8.2 in the gabapentin group and 37.4 ± 7.4 in the pregabalin group. Headache was the most common among the gabapentin group, followed equally by placebo and pregabalin groups. Nausea was equally reported by the gabapentin and placebo groups. Dizziness was seen equally among the placebo and pregabalin groups followed by the gabapentin group.

Conclusion: The study concluded that pregabalin is a better medication for the management of neuropathic pain as compared to gabapentin.

Keywords: Cancer, Gabapentin, Palliative care, Pregabalin.

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INTRODUCTION

Neuropathic medications are increasingly being used in the management of neuropathic pain along with adjuvants in the management of pain. Pain in cancer is the most fearsome symptom along with the disease itself. Proper management of pain is necessary. Multimodal analgesia and newer medications had reduced the incidence of neuropathic as well as postsurgical pain.¹ It was observed that when we are unable to give proper analgesic pain worsens and the patient might need admission again causing an increase in financial burden.² Because of neuropathic pain quality of life is hampered.^{3,4} Sleep disturbances, anxiety, and various other problems may coexist.⁴ It was observed that giving pain medicines before painful stimulus gives better results than giving after.⁵

MATERIALS AND METHODS

We had undergone a present study in the Department of Pain and Palliative Medicine, Mahatma Gandhi Hospital, Jaipur, India. The study design was a prospective randomized observational study of 100 patients suffering from cancer having painful neuropathy. In a prospective randomized study, 50 patients were allocated randomly into two equal groups.

Due permission was taken from the institutional ethics committee and after obtaining written informed consent from patients. Patients in group G were given gabapentin 300 mg at bedtime whereas group P received pregabalin 75 mg. The pain was recorded using the VAS scale. Follow-up was done over a period of a month (Tables 1 to 4).

We have formed two groups for comparison.

- Group I: 50 cases, were given pregabalin, beginning with 75 mg.
- Group II: 50 cases, were given gabapentin, beginning with 300 mg.

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Inclusion Criteria

- Patients undergoing cancer treatment having neuropathic pain.

Table 1: Patients demographics

	Pregabalin (n = 50)	Gabapentin (n = 50)	p value
Age (years)	37.4 ± 7.4	38.2 ± 8.2	>0.05
Sex male/ female	22/28	18/32	>0.05
Weight (kg)	72.4 ± 5	71 ± 6	>0.05

The mean age in the pregabalin group was 37 ± 7.4 and gabapentin was 38.2 ± 8.2 , having a *p* value > 0.05. These groups were comparable. Weight in the pregabalin group was 72.4 ± 5 and gabapentin was 71 ± 6 . *p* value > 0.05

Table 2: Incidence of burning sensation

Duration in weeks	Study population with a burning sensation			
	Pregabalin (n = 50)		Gabapentin (n = 50)	
	No. of cases	%	No. of cases	%
Baseline	50	100.0	50	100.0
1 Week	46	92.0	47	94.0
2 Weeks	45	90.0	48	96.0
3 Weeks	44	88.0	47	94
4 Weeks	40	80.0	42	84.0

A burning sensation is reduced at 1, 2, 3, and 4 weeks 92, 90, 88, and 80% and in gabapentin in 94, 96, 94, and 84%

Table 3: Incidence of spontaneous pain

Duration in weeks	Study population with spontaneous pain			
	Pregabalin (n = 50)		Gabapentin (n = 50)	
	No. of cases	%	No. of cases	%
Baseline	40	80.0	39	78.0
1 Week	38	76.0	37	74.0
2 Weeks	36	72.0	36	72.0
3 Weeks	34	68.0	36	72.0
4 Weeks	33	66.0	34	68.0

Spontaneous pain at 1, 2, 3, and 4 weeks showed more improvement with pregabalin than gabapentin

Table 4: VAS score

VAS score	Pregabalin	Gabapentin
Baseline	8.64 ± 2.80	8.62 ± 3.57
At 4 weeks	3.96 ± 5.54	4.62 ± 4.89
Mean improvement	4.68 ± 4.97	4.00 ± 4.54

VAS score improvement in the pregabalin group was 8.64 ± 2.80 and in the gabapentin group, 8.62 ± 3.57 at 4 weeks was 3.96 ± 5.54 and in gabapentin 4.62 ± 4.87. Mean improvement 4.68 ± 4.97 and the gabapentin group was 4.00 ± 4.54

Exclusion Criteria

- Patient refusal.
- Patients having organ dysfunction.
- Patients with altered sensorium or disturbed orientation.

Adverse Effects

	Pregabalin (n = 50)	Gabapentin (n = 50)	p value
Nausea	10 (20%)	9 (18%)	>0.05
Vomiting	8 (16%)	10 (20%)	>0.05
Dizziness	7 (15%)	7 (17.5%)	>0.05
Drowsiness	4 (8%)	4 (8%)	>0.05
Headache	4 (8%)	5 (10%)	>0.05
Visual disturbances	1 (2%)	2 (4%)	>0.05
Urine retention	0 (0%)	0 (0%)	
Respiratory depression	0 (0%)	0 (0%)	

There was an incidence of nausea, vomiting, dizziness, drowsiness, headache, and visual disturbances. There was no incidence of urinary retention and respiratory depression.

DISCUSSION

Cancer-related pain is the most common cause of morbidity and mortality. Neuropathic pain causes distress and financial losses. We have compared gabapentin and pregabalin for the management of neuropathic pain in cancer patients. Respective medications were given for 30 days and their effects on pain, burning sensation were seen. Also, their adverse effects were noted, and numbness was evaluated. The pain was evaluated by the use of the VAS scale and the patients' response. Yilmaz et al. found no statistically significant difference between gabapentin and pregabalin in neuropathic pain.⁶ Richter et al.⁷ reported that pregabalin 300 mg/day provides >50% reduction in pain from baseline in about 40% of total patients. Rosenstock et al.⁸ described a 67% reduction in neuropathic pain in patients treated with pregabalin.

Lesser et al.⁹ also reported that gabapentin and pregabalin groups provide better pain relief than which was also in accordance with the findings of the current study.¹⁰

Gabapentin and pregabalin are used for the management of neuropathic pain in cancer patients, both are effective in the management of pain

CONCLUSION

According to the results of our study, both gabapentin and pregabalin are suitable adjuvants along with analgesics for the management of neuropathic pain in cancer patients.

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