

## LASER THERAPY IN POST HERPETIC NEURALGIA

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Combi laser therapy was evaluated in 50 cases of established post herpetic neuralgia (PHN). Established PHN term was used when neuralgia persisted after 3 months of disappearance of herpes zoster (HZ) vesicles. Twenty exposures were given and affected areas were irradiated from a distance of 2 cm at a frequency of 5000 Hz each area being exposed for a period of 1.23 minutes ie, 8J/cm<sup>2</sup> of beam was given. Therapeutic evaluation was done on 4th, 8th, 12th, 16th, and 20th day. All 17 cases of established PHN of duration upto 3 months healed after 16 exposures and in the end 44/50 had cure, 5/50 had partial relief and one patient left trial after 2nd exposure.

**Key Words :** Post herpetic neuralgia, Combi laser

### Introduction

Pain disappears in 50% cases of herpes zoster (HZ) within 3 months of disappearance of clinical lesions and in rest of cases, well established post herpetic neuralgia (PHN) results which is a refractory and disabling disorder.<sup>1</sup> Drugs like phenytoin, carbamazepine and amitriptyline have some beneficial effect in PHN. Acyclovir alone does not prevent PHN.<sup>2</sup> Corticosteroids if given in early eruptive stage in dosage of 40-60 mg daily may or may not reduce duration and severity of PHN and definite risk of dissemination of varicella zoster virus exists.<sup>3,4</sup> Other therapies as epidural injection of local anaesthetic, acupuncture, biofeedback etc have been tried.<sup>1</sup> Combi laser with reports of excellent anti-inflammatory effect<sup>5</sup> was evaluated for its efficacy in 50 cases of established PHN in the present study.

### Materials and Methods

Fifty cases of PHN were studied. The age of the patient varied from 40 to 80 years (Table I) and the duration of symptoms from 5 days to 12 months (Table II).

The patients were given laser therapy

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**Table I.** Age of the patients with established PHN

| S. No. | Age (in years) | No. of patients |
|--------|----------------|-----------------|
| 1.     | 41 - 50        | 17              |
| 2.     | 51 - 60        | 19              |
| 3.     | 61 - 70        | 11              |
| 4.     | 71 - 80        | 3               |

**Table II.** Groups according to the duration of established PHN

| Group No. | Duration (in months) of established PHN | No. of patients |
|-----------|---|-----------------|
| A         | 0 - 3                                   | 17              |
| B         | 4 - 6                                   | 12              |
| C         | 7 - 9                                   | 13              |
| D         | 10 - 12                                 | 8               |

daily for a maximum period of 20 days. The affected areas were irradiated from a distance of 2 cm at a frequency of 5000 Hz, each area being exposed for a period of 1.23 minutes ie, 8J/cm<sup>2</sup> of beam was given. During the whole procedure the patients were advised to keep the eyes closed, while the doctor wore the dark glasses. Follow up of patients was done on 4th, 8th, 12th, 16th, and 20th day of therapy.

### Results (Table III)

Initial beneficial effect of combi laser therapy was experienced by 19/50 patients on the 4th day. On 8th day 7/17 cases of only

**Table III.** Therapeutic effect of combi laser in established PHN

| Duration of well established PHN |              | 0-3 months (A)           |   |    |     | 4-6 months (B) |   |    |     | 7-9 months (C) |   |    |     | 10-12 months (D) |   |    |     |
|----------------------------------|--------------|--------------------------|---|----|-----|----------------|---|----|-----|----------------|---|----|-----|------------------|---|----|-----|
| Day of exposure                  | No. of cases | 17                       |   |    |     | 12             |   |    |     | 13             |   |    |     | 8                |   |    |     |
|                                  | Response     | N                        | + | ++ | +++ | N              | + | ++ | +++ | N              | + | ++ | +++ | N                | + | ++ | +++ |
| 4th                              |              | 7                        | 8 | 2  | -   | 10             | 2 | -  | -   | 10             | 3 | -  | -   | 3                | 4 | -  | -   |
|                                  |              | (one patient left trial) |   |    |     |                |   |    |     |                |   |    |     |                  |   |    |     |
| 8th                              |              | -                        | 5 | 5  | 7   | 2              | 5 | 5  | -   | 2              | 6 | 5  | -   | 1                | 2 | 4  | -   |
| 12th                             |              | -                        | - | 3  | 14  | -              | 2 | 4  | 6   | 4              | 4 | 5  | -   | 2                | 1 | 4  |     |
| 16th                             |              | -                        | - | -  | 17  | -              | - | 2  | 10  | -              | 2 | 1  | 10  | -                | 1 | 1  | 5   |
| 20th                             |              | -                        | - | -  | T   | -              | - | 1  | 11  | -              | - | 1  | 12  | -                | 1 | 2  | 4   |

N = No response, + = Some relief, ++ = Moderate relief, +++ = Disappearance of pain.

group A ie, with duration of established PHN upto 3 months were cured and others (Groups B,C,D) had some relief. 29/50 patients were cured after 12 exposures, another 13/50 patients were treated with 16 exposures and additional 2/50 needed 20 exposures for cure. So 44/50 were cured after 20 exposures of combi laser and one had left the therapy after second exposure. Rest 5/50 patients (4 with ++ and 1 with + response) were partially treated even after 20 exposures. Out of 5 with partial relief, 3 were between the ages of 71-80 years, and 2 were from 61-70 years of age groups. In addition 4/50 cases with partial relief had HZ ophthalmicus.

In group A ie, with established PHN upto 3 months duration, response was earlier and 100% cure rate was seen with 16 exposures. Thus, combi laser therapy was comparatively less effective in cases of ophthalmic HZ, elderly patients and in cases with prolonged duration of PHN.

## Discussion

Combi laser activates macrophages and they cleanse tissue transmitters of pain and proteins leading to reduction of inflammation.

Combi laser also increases threshold to pain by increasing amount of ATP within nerve cell thus restoring membrane potential and hyperpolarization of cell. Combi laser therapy gave gratifying results ie, 88% cure rate in the present study and is a valuable tool for big hospitals, though the equipment is costly and procedure is time consuming. The therapy is noninvasive, safe (no damage to eyes was observed even in cases of ophthalmic PHN) and simple.

## References

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