

ROLE OF LASER THERAPY IN POST HERPETIC NEURALGIA

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The efficacy of combi laser therapy was evaluated in fifty cases of post herpetic neuralgia (PHN) of different age groups (31 to 81 years) and with varying duration of illness from 2 months to 4 and a half years in the present study. The affected areas were irradiated from a distance of 5 cms using the probe of 12X70 watts at a frequency of 1000 Hz, each area being exposed for a time period of 5 minutes and 6 seconds. In each case the combi laser therapy was given for 15 consecutive days and therapeutic effect of the therapy was evaluated after 5th, 10th and 15th laser application during the treatment with the help of visual analogue scale (VAS). Patients started responding to the therapy after an average of 3.28 laser applications and VAS steadily decreased as the therapy progressed. After completion of therapy, 43 (86%) out of 50 cases showed excellent relief (76-100%) and remaining 7 (14%) cases showed partial relief (4 (8%) cases with good relief (51-75%), 2 (4%) cases with fair relief (26-50%) and 1(2%) case with poor relief (1-25%). Partial relief in our 7 cases could be due to multiple factors like prolonged duration of illness, involvement of ophthalmic division of trigeminal nerve and formation of scarring and keloids. No side effects were observed during the treatment as well as during the follow up period of 8 weeks.

Key Words: Post herpetic neuralgia, Combi laser, Visual analogue scale

Introduction

Post herpetic neuralgia (PHN) is one of the most common and intractable complications of herpes zoster, usually appearing or persisting 2 months after healing of cutaneous herpes zoster. Its intensity varies from inconvenient to profoundly disabling.¹ It occurs in 10-15% patients with herpes zoster.² Its incidence increases in patients of 60 years old or older especially with those of ophthalmic herpes zoster.³ A number of modalities has been tried to relieve the patient from pain and discomfort, such as analgesics, antidepressants, anti-epileptics, ganglion block, electric counter irritation, intralesional triamcinolone, excision of scarred skin, cryosurgery, acupuncture, EMLA cream and topical capsaicin etc. Existence of these large number of treatment remedies reflects the fact that none is uniformly effective. Recently combi laser (an infra red laser) has been tried for the treatment of PHN with excellent results:^{4,5} In the present study the efficacy of combi laser therapy was evaluated in 50 cases of PHN

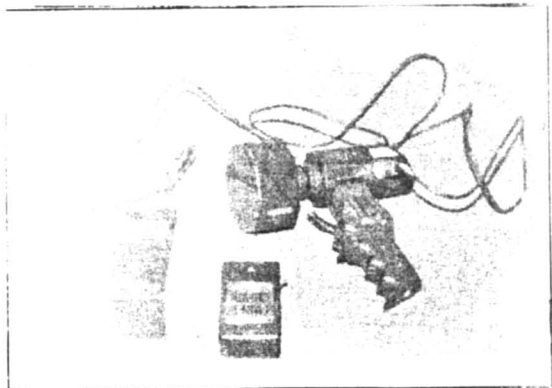
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Materials and Methods

Sixty cases of PHN were taken at random from Skin and STD Department of Guru Nanak Dev Hospital/ Govt. Medical College, Amritsar. Diagnosis in each case was made clinically. Cases who were using any medicine internally or topically were advised to stop it atleast 2



Combi laser C 501 with 12X70 watt probe eliminator and laser beam detector.

weeks prior to the start of laser therapy. Out of 60 cases of PHN, 50 were enrolled in this study. The remaining 10 cases were excluded from the study because 6 had

abnormal liver or renal function tests and 4 cases dropped out at one stage or the other during the course of the treatment. The age of the patients varied from 31 to 81 years and the duration of symptoms varied from 2 months to 4 and a half years.

The affected areas were irradiated from a distance of 5 cms using the probe of 12x70 watts at a frequency of 1000 Hz, each area being exposed for a time period of 5 minutes and 6 seconds. During the procedure patient wore dark glasses fortified with lead sheets. In all the 50 cases laser therapy was given daily for a period of 15 days and further followed up of each case was done at weekly interval for 8 weeks.

Evaluation of the patient was done after and 5th, 10th and 15th laser application. Assessment of pain intensity of each was evaluated by visual analogue scales⁶ from 0 to 10. Efficacy of analgesia was measured by using the score before and after the treatment and converting the VAS score into percentage of pain relief. The procedure was done as an OPD procedure and no local anaesthesia was given. During and after the procedure patient was asked and observed for any side effects or complications.

Table I. Percentage of pain relief after completion of laser therapy

Percentage of relief	No. of patients	Percentage
0	-	-
1-25	1	2
26-50	2	4
51-75	4	8
76-100	43	86
Total	50	100

0 - No relief 1-25 - Poor relief 26-50 - Fair relief
51-75 - Good relief 76-100 - Excellent relief

Table II. Percentage of pain relief v/s age

Pain relief in percentage	Age in years									
	31-40		41-50		51-60		61-70		>70	
	No.	% age	No.	% age	No.	% age	No.	% age	No.	% age
0	-	-	-	-	-	-	-	-	-	-
1-25	-	-	-	-	-	-	1	5.55	-	-
26-50	-	-	1	12.5	-	-	1	5.55	-	-
51-75	1	25	-	-	1	11.1	-	-	2	18.18
76-100	3	75	7	87.5	8	88.8	16	88.8	9	81.8
Total	4	100	8	100	9	100	18	100	11	100

Table III. Percentage of pain relief v/s skin lesions

Pain relief in percentage	Skin lesion status					
	Pigmentary changes		Pigmentary changes, scarring		Pigmentary changes, scarring and keloids	
	No.	% age	No.	% age	No.	% age
0	-	-	-	-	-	-
1-25	-	-	-	-	1	20.00
26-50	-	-	1	5.88	1	20.00
51-75	-	-	2	11.76	2	40.00
76-100	28	100.00	14	82.35	1	20.00
Total	28	100.00	17	100.00	5	100.00

Results

(Table I, II, III and IV)

Effect of laser therapy on PHN was evaluated after 5th, 10th and 15th laser application. Average VAS score in 50 PHN cases before the start of laser therapy was 7.02 which decreased to 4.54, 2.28 and 0.74 after 5th, 10th, 15th laser application respectively. 19/50 cases experienced initial relief of pain after 3rd laser application.

After completion of laser therapy 43/50 cases showed excellent relief and remaining 7/50 cases showed partial relief, (4 cases good relief, 2 cases fair relief and 1 case poor relief of pain).

43/50 cases belonging to different age groups showed excellent relief of pain after completion of laser therapy and remaining 7/50 cases showed partial relief.

39/43 cases with duration of illness upto 2 years

(27/29 with duration of 1-6 months, 6/7 each with duration of illness 7-12 months and 1-2 years) showed excellent pain relief, whereas only 4/7 cases with duration of PHN more than 2 years showed excellent results.

28/50 cases who showed only pigmentary changes experienced excellent pain relief and only 1/5 cases with

i.e. more than 2 years, in cases of ophthalmic herpes zoster and in cases with keloids and scarring formation.

Discussion

In the light of aforesaid observations it can be concluded that the laser therapy is very effective in the treatment of PHN as it has shown excellent results in our study. Out of 50 cases 43 (86%) showed excellent relief from PHN and the remaining 7 (14%) showed partial relief of pain which could be due to multiple factors like prolonged duration of the illness, involvement of ophthalmic division of trigeminal nerve and formation of scarring and keloids at the affected site. Age of the patient did not show any relation to the result of the laser therapy in our study.

Therapy is non-invasive, painless and safe. It is bloodless and office procedure with no requirement of indoor stay in the hospital. No anaesthesia is required. No side effects were

observed during the treatment as well as during follow-up period of 8 weeks. Only shortcomings of the procedure are high cost of the equipment and time consuming procedure.

It is recommended that infra red laser therapy should be the first line of treatment in all the cases of PHN irrespective of age, duration, dermatome involved and scarring and keloid formation at the affected site. Treatment should be initiated at the earliest so as to increase the chances of complete recovery.

References

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Table IV. Percentage of pain relief v/s dermatome

Pain relief in percentage	Dermatome involved									
	Thoracic		Trigeminal		Cervical		Lumbar		Sacral	
	No.	% age	No.	% age	No.	% age	No.	% age	No.	% age
0	-	-	-	-	-	-	-	-	-	-
1-25	1	3.44	-	-	-	-	-	-	-	-
26-50	-	-	2	18.18	-	-	-	-	-	-
51-75	1	3.44	3	27.27	-	-	-	-	-	-
76-100	27	93.10	6	54.54	7	100	2	100	1	100
Total	29	100.00	11	100.00	7	100	2	100	1	100

pigmentary changes and scarring showed excellent pain relief and only 1/5 cases with pigmentary changes, scarring and keloids showed excellent result.

37/39 cases with the involvement of thoracic, cervical, lumbar and sacral dermatomes showed excellent pain relief whereas only 6/11 cases with the involvement of ophthalmic division of trigeminal nerve showed excellent results.

Out of 7 cases with partial relief, 5 were between 31 to 70 years and 2 were more than 70 years of age. Four cases with partial relief were with duration of PHN upto 2 years and 3 were with duration of illness more than 2 years. Three cases with partial relief had scarring apart from pigmentary changes. Five cases with partial relief had herpes zoster ophthalmicus and remaining 2 cases had involvement of thoracic dermatomes.

During the period of laser therapy i.e. first 15 days and at the end of follow up period of 8 weeks, visible variable degree of improvement was seen in keloids in 1/5 cases. Thus combi laser therapy gave excellent results in cases of PHN but it was comparatively less effective i.e. it gave partial pain relief in cases with prolonged duration