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Antimicrobial Photodynamic Therapy as First Choice for Treatment of Herpes Zoster Virus Infection in Younger Patients: A Case Report

Susana Teitelbaum, DDS, MSc, 1 Luciane Hiramatsu Azevedo, DDS, MSc, PhD, 2 and Wilber Edison Bernaola-Paredes, DDS, MSc³ Abstract background: Infection with the herpes zoster virus is generally seen as a reactivation of the varicella zoster Virus (VZV) described that affects the trigeminal nerve branches and ganglia in the jaw and face area. The ophthalmic branch is most affected, while the dermatomes of the upper jaw (V2) and lower jaw (V3) are less frequently affected.

Objective: This report describes the positive clinical results of photodynamic therapy (PDT), which was used as the treatment modality of first choice, in a younger patient who, after five applications and without medical treatment, was diagnosed with recurrent infection with VZV in the right cheek was asked. The methods: PDT was used to treat various infectious processes and pre-oncological intra- and extraoral lesions. Our first choice treatment protocol, considering her medical records, was PDT until we achieved full regression and recovery.

The results: On the third and fourth day after the light irradiation, the energy was reduced to 4 J. Complete regression and recovery were clinically observed on the fifth day of light exposure.

Conclusions: Treatment with a low intensity laser for both aPDT and light irradiation was effective and safe. It resulted in the decontamination and healing of the affected lesion area and an improvement in the signs and symptoms of the herpes zoster virus.

Key words: Herpes zoster, photodynamic therapy, varicella zoster virus, photobiomodulation, herpes zoster treatment

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The effect of 670 nm low laser therapy on herpes simplex type 1

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short version

Objective: The aim of this thesis was to investigate the effect of low-level laser therapy (LLLT) on the healing and recurrence intervals in patients with recurrent herpes simplex infections of the lips.

Background data: Various drugs are available to relieve symptoms and improve healing of labial herpes, but only LLLT is believed to significantly affect the length of the relapse period.

The Methods: In an initial study, 232 patients with symptoms of herpes simplex virus type 1 were sequentially selected for either LLLT or conventional therapy, including acyclovir cream or tablets. One of the dentists was responsible for the diagnosis, a second dentist for the treatment and a third for the evaluation in order to enable a semi-blinded procedure. Patients in the laser group received 670 nm laser exposure, 40mW, 1.6 J, 2.04 J / cm², 51mW / cm² per bladder in the prodromal stage and 4.8 J in the crust and secondarily infected stages, plus 1, 2 J on vertebrae C2 & C3. Patients were monitored daily for the first week to check healing and monthly for one year to prevent relapse. In a consecutive study, 322 patients

Results: An obvious effect of LLLT was found for both initial healing and length of relapse periods.

Conclusion: Herpes simple virus 1 (HSV-1) LLLT appears to be an effective treatment modality with no observed side effects.

Low-intensity laser therapy is an effective treatment for recurrent herpes simplex infection. Results of a randomized, double-blind, placebo-controlled study Schindl A, Neuman R.

Investigative Dermatology. 1999; 113 (2): 221-223.

50 patients with recurrent perioral herpes simplex infections (at least once a month for more than 6 months) were treated in a double-blind study with a 690 nm, 80 mW laser, 48 J / cm². The patients received daily radiation, 10 treatments for two weeks. Treatment was in a relapse-free period and radiation was given at the site of the original herpes simplex infection. If both lips were affected, both the upper and lower lips were treated. The patients were monitored for 52 weeks. The mean recurrence-free interval in the laser group was 37.5 weeks (range; 2-52 weeks) and in the placebo group 3 weeks (range 1-20 weeks). No side effects were found.

Double-blind crossover study of low-level laser therapy in the treatment of post-therapeutic neuralgia Kevin C. Moore Naru Hira. Parswanath S. Kramer, Copparam S. Jayakumar and Toshio Oshiro

Post-therapeutic neuralgia can be an extremely painful condition that, in many cases, proves resistant to all accepted forms of treatment. It is often most severe in the elderly and can persist for years with no predictable course. This study was designed as a double-blind study to assess the effectiveness of low-level laser therapy in relieving pain in post-therapeutic neuralgia, with patients acting as their own controls. Admission to the study was limited to patients with proven post-therapeutic neuralgia lasting at least six months who had hardly responded or not at all to conventional treatment methods. Measurements of pain intensity and distribution were carried out over a period of eight treatments in two groups of patients who each received successive laser treatments. The results show a significant reduction in both pain intensity and pain distribution following low-level laser treatment.

The effectiveness of laser irradiation on the area near the stellate ganglion is dose-dependent: double-blind, crossover, placebo-controlled study

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In the present study, we evaluate the effects of laser irradiation on the area near the star ganglion on regional skin temperature and pain intensity in patients with post-therapeutic neuralgia. A double-blind, crossover and placebo-controlled study was designed to negate the placebo effect of laser irradiation. Eight patients (6 male, 2 female) who received laser therapy for pain relief were included in the study after institutional approval and informed consent. Each patient received three treatment sessions at random on a separate day. Three minutes of exposure to a 150 mW laser (session 1), three minutes of exposure to a 60 mW laser (session 2) and three minutes of placebo treatment without laser radiation. Neither the patient nor the therapist knew what type of session was being used by the end of the study. Regional skin temperature was assessed by thermography of the forehead and pain intensity was recorded with a visual analog scale (VAS).

The measurements were taken before the treatment, immediately after (0 minutes), then 5, 10, 15 and 30 minutes after the treatment. The regional skin temperature rose after both 150 mW and 60 mW laser irradiation, while the placebo treatment did not result in any changes. The VAS decreased after both 150 mW and 60 mW laser treatment, while no changes in VAS were achieved with placebo treatment. These changes in temperature and VAS were also dependent on the energy density, ie the dose. The results show that laser irradiation near the sternum ganglion produces effects similar to those of a sternum ganglion block. Our results clearly indicate that these are not placebo effects, but real effects of laser irradiation.

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Effectiveness of low-reactive-level laser therapy for pain relief in post-therapeutic neuralgia Osamu Kemmotsu, Kenichi Sato, Hitoshi Furumido, Koji Harada, Chizuko Takigawa, Shigeo Kaseno, Sho Yokota, Yukari Hanaoka and Takeyasu Yamamido Department of Anesthesiology University of Hokka, N-15. W-7, Kita-ku. Sapporo 060, Japan.

The effectiveness of low-reactive-level laser therapy (LLLT) for pain relief in patients with post-therapeutic neuralgia (PHN) was examined in 63 patients (25 men. 38 women with a mean age of 69 years) who had been in our for the last four years Were treated at the pain clinic. A double-blind assessment of LLLT was also performed in 12 PHN patients. The LLLT system is a gallium aluminum arsenide (GaAlAs) diode laser (830 nm, 60 mW continuous wave). The pain scores (PS) were determined using a linear analog scale (i to 10))) before and after the LLLT. The immediate effect after the initial LLLT was very good (PS: {} 3) in 26, and good (PS: 7-4) in 30 patients. The long-term effect at the end of LLLT (the average number of treatments 36 + 12) resulted in no pain in 12 patients (PS: 0) and in 46 patients to mild pain (PS: 1-4). There were no complications attributable to LLLT. Although a placebo effect was observed, the decrease in pain scores and the increase in body surface temperature with LLLT were significantly greater than with placebo treatment. Our results suggest that LLLT is a useful modality for pain relief in PHN patients, and because LLLT is a non-invasive, painless, and safe method of therapy, it is well accepted by patients. Although a placebo effect was observed, the decrease in pain scores and the increase in body surface temperature with LLLT were significantly greater than with placebo treatment. Our results suggest that LLLT is a useful modality for pain relief in PHN patients, and because LLLT is a non-invasive, painless, and safe method of therapy, it is well accepted by patients. Although a placebo effect was observed, the decrease in pain scores and the increase in body surface temperature with LLLT were significantly greater than with placebo treatment. Our results suggest that LLLT is a useful modality for pain relief in PHN patients, and since LLLT is a non-invasive, painless and safe method of therapy, it is well accepted by patients.

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Laser therapy of human herpes simplex lesions

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Herpes simplex is a disease caused by the human herpes virus types 1 and 2 that generally has a primary lesion with latency and a tendency to relapse. It's also known as a fever button or fever blister. According to the World Health Organization (WHO), an international prevalence of around 60% has been observed (1, 2).

An experimental study was carried out in which 232 patients were treated with the herpes simplex virus type 1. All patients visited the "Leonardo Fernández" clinic of area 3 of the municipality of Cienfuegos in the period from January 2001 to January 2003, with the aim of determining the time of recurrence of the labial herpes in the groups examined before and after treatment and to evaluate the effectiveness of the low power laser in treating infection of the virus.

Two groups were selected (study and control) with 116 patients in each group, distributed and classified according to the clinical stage at which they went to the consultation. In the study group, the patients were given treatment with a LASERMED 670 DL, a GaAlAs diode laser (30mW @ 40 sec) in the prodromal stage and in the vesicle stage; or (20mW @ 2 min) in the crust stage and in secondary infected lesions. In all of these patients, radiation was also applied between the C2-C3 vertebrae, where the resident ganglion of the virus is located during the latency periods (30mW @ 30sec).

The control group was offered indicated treatment with antiviral drugs (acyclovir in cream and in pills) and other palliative therapies.

After analyzing the data obtained, the following results were found:

Diagram No. 1

The patients in the study group. Distribution according to the frequency of annual cold sore recurrence before and after treatment.

Table # 1

Distribution of patients in the study group according to the frequency of annual herpes recurrence after laser therapy.

Study group n = 116	Recurrence frequency						
	Once a month	Every 2 to 3 months	Every 4 to 5 months	Every 6 month	Once a year	For the first time	non recurrence
Before treatment	9	26th	58	12	7th	4th	—

After treatment – – 37 22nd 25th – 32

Analyzing Chart # 1, it is observed that the groups of patients suffering from labial herpes with high recurrence rates (after being treated with the laser and having to wait a year to assess its effectiveness) lasted over a year Relapse reported for longer periods of time, and 32 patients did not even have a relapse.

Chart # 2

The patients in the control group. Distribution according to the annual frequency of recurrence of labial herpes before and after treatment.

Control group n = 116	Recurrence frequency						
	Once a month	Every 2 to 3 months	Every 4 to 5 months	Every 6 month	Once a year	For the first time	non recurrence
Before treatment	7th	24	56	14th	9	6	–
After treatment	6	21st	46	27	14th	–	2

In graph no. 2 the same earlier aspects are shown, but in the control group. As can be seen, the number of cases decreased, albeit discreetly; those who had more relapses and the same number of relapses increased in patient numbers in the periods with longer-lasting relapses. In this group, 2 patients stated that they did not have more lesions in the year analyzed.

Chart # 3

The patients of both groups. Distribution according to the annual frequency of recurrence of labial herpes after treatment.