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## Early Application of Low-Level Laser May Reduce the Incidence of Postherpetic Neuralgia (PHN)

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## Abstract

**Background:** Postherpetic neuralgia (PHN) is difficult to treat, and currently there are no available treatments that effectively reduce its incidence. Low-level laser therapy (LLLT) has been proposed for indirect virus deactivation in treating recurrent herpes simplex infections.

Objective: This study seeks to investigate whether LLLT could reduce the incidence of PHN.

**Methods:** We retrospectively reviewed the incidence of PHN at the first, third, and sixth months after rash outbreak in 3 groups: the acute group of patients who received LLLT during the first 5 days; the subacute group of patients who received LLLT during days 6 to 14 of the eruption; and the control group of patients who did not receive LLLT.

**Results:** There were 48, 48, and 154 patients in the acute, subacute, and control groups, respectively. After adjusting for confounding factors, including age, sex, and use of famciclovir, the incidence of PHN was significantly lower in the acute group versus the control group after 1 month (odds ratio [OR] 0.21, P = .006, 95% confidence interval [CI] 0.068-0.632), 3 months (OR 0.112, P = .038, 95% CI 0.014-0.886), and 6 months (OR 0.123, P = .021, 95% CI 0-0.606). The subacute group only had a lower incidence (OR 0.187, P = .032, 95% CI 0.041-0.865) after 3 months when compared with the control group.

**Limitations:** This is a retrospective study lacking double-blind randomization, and the placebo effect may be a major concern. Lack of standardized and prospective evaluation measures is also a limitation of this study.

**Conclusion:** Applying LLLT within the first 5 days of herpes zoster eruption significantly reduced the incidence of PHN. LLLT may have the potential to prevent PHN, but further well-designed randomized controlled trials are required.

Keywords: herpes zoster; low-level laser therapy; postherpetic neuralgia.

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