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Erchonia® Laser (635nm) as an Adjunct to Burn Pain Management

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Introduction:

Pain management is one of the greatest challenges in burn care. Any non-invasive modality that can decrease burn wound pain is of significant benefit to patient care and rehabilitation. Low level laser therapy (LLL) has been shown in numerous studies to have analgesic properties. The Erchonia® Laser (635 nm) is a cold-diode form of LLLT (≤ 5 mW output) that we utilized to assess acute pain response in burn patients.

Methods:

Twenty-five burn patients ages 16-84 years of age were treated with the Erchonia® Laser to assess change in baseline pain. Patients graded their pain prior to treatment on a 1-10 analog scale and again five minutes post-treatment. The laser was set at frequencies of Hz and Hz for the treatment. The laser has a double beam output that functions simultaneously. Treatments were minutes per TBSA burn. Varied anatomic sites were burned. Of the 25 patients, there was a total of 36 treatments. Some patients (7) received multiple treatments over several days. Patients pain was at a steady state when treated. The Erchonia® treatment was given following hydrotherapy to the wound and prior to application of topical treatments or dressings.

Results:

Eighty percent of patients were male and 20% female. Patients average age was 39 years. Fourteen patients were outpatient care only with 11 patients having an inpatient stay. Patients varied from 2 to 8 in initial pain scores. Percent decrease in pain post-Erchonia® treatment was between 25% and 80% with an average aggregate decrease in pain of 60%. No patient complained of pain from the Erchonia® laser, though several patients felt a light blowing sensation on the skin or mild tingling.

The size of burn injury varied from 0.75% TBSA to 50% TBSA. The average burn size was 7.1% TBSA. During the course of the treatment, six patients received allografts, six patients xenografts and five patients split thickness skin grafts. Four patients received a combination of wound coverage. Eight patients only required topical antibiotic wound care.

Conclusions:

The Erchonia® Laser significantly decreased pain in burn wounds post-treatment. Patients typically reported a 6-18 hour decrease in pain if their wound was not significantly manipulated post Erchonia® treatment. An interesting sideline of the study was often seeing a visual improvement in tissue color and perfusion to the injured tissues. Ongoing work will document this response. The Erchonia® Laser may demonstrate great benefit in the care of burns with less narcotic requirements.

Author Disclosure Block: J.M. Nelson, None.

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