

Oral care and low level laser therapy for oral mucositis in pediatric patients undergoing hematopoietic stem cell transplantation: clinical outcomes and review of the literature

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Oral mucositis (OM) is a painful inflammatory condition of the oral mucosa derived from toxic effects of chemotherapy and radiotherapy during hematopoietic stem cell transplantation (HSCT). High OM severity is frequently present in HSCT pediatric patients, who exhibit multiple painful ulcers that limit their mastication and swallowing, leading poor nutritional status. Low level laser therapy (LLLT) has been used for OM prophylaxis and treatment with good efficacy, but few reports have demonstrated its clinical outcomes and benefits in HSCT pediatric patients. The aim of this study was to describe a LLLT protocol developed for children undergoing transplantation, and the clinical outcomes after OM prevention and treatment. Data of OM-related morbidity was prospectively collected from 51 HSCT pediatric patients treated with LLLT and oral care. The majority of the patients (about 80.0%) exhibited only erythema, and the maximum OM degree was II. Significant reduction in number of OM days ($p < 0.001$) and opioid prescriptions ($p = 0.009$) was detected when the patients were compared with historical controls without LLLT. We concluded that LLLT associated with oral care is feasible and affordable for HSCT pediatric patients. Good clinical outcomes were obtained with this therapy, mainly in regard to control of OM severity and pain in the oral cavity.