The advantages of carbon dioxide laser applications in paediatric oral surgery: A prospective cohort study

The aim of this study is to evaluate and demonstrate the advantages of the carbon dioxide laser in paediatric oral surgery patients in terms of less post-operative complications, healing without scarring, functional benefits, positive patient perception and acceptance of the treatment. 100 fit and healthy paediatric patients (aged 4–15 years) were recruited to undergo laser surgery for different soft tissue conditions. The outcome of these laser treatments was examined. The Wong-Baker Faces Pain Rating Scale (Fig. 1) was employed to evaluate the pain before, immediately after laser treatment in the clinic and one day after post-operatively at home. Post-operative complications and patients’ perception and satisfaction were self-reported during a review telephone call the day after treatment. The patients were reviewed two weeks after surgery. Laser parameter was 1.62 W, measured by power meter, continuous wave mode with 50% emission cycle. The beam spot size at the target tissue was 0.8 mm. The pain score pre-operative during and immediately after laser treatment was rated 0. While the pain scores one day after surgery were rated between 0 and 2, the healing time was measured over two weeks. None of the patients reported post-operative complications after surgery. Patients’ perception and acceptance were rated very well. Laser dentistry is a promising field in modern minimally invasive dentistry, which enables provision of better care for children and adolescents. In this cohort study, the use of the carbon dioxide laser therapy offers a desirable, acceptable and minimally invasive technique in the surgical management of soft tissues in paediatric oral surgery with minimal post-operative complications.

Recent Publications


Biography

Reem Hanna is an Associate Specialist in Oral Surgery at King’s College Hospital. She is a Registered Specialist in Oral Surgery in UK. She is honorary Senior Lecture at UCL Eastman Dental Institute where she leads the fellowship in laser dentistry and advanced oral surgery courses. She was appointed as Visiting Professor in Surgical Sciences and Integrated Diagnostics Department, University of Genoa (UNIGE) in 2015. She is a faculty member who teaches Master of Science students in laser dentistry program at UNIGE. She lectures nationally and internationally on the applications of oral laser therapy. Her great interest is utilizing photobiomodulation in tissue regeneration and neuropathic pain.

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