

Digital Radiographic Assessment of Surgical Laser Therapy in the Treatment of Periapical Pathological Conditions of the Jaws

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Objectives: Oral cavity has been an anatomic area of interest for laser surgical applications because of its easy accessibility and relatively high vascularity. Laser can deliver a precise cutting, wide ablation, rapid hemostasis which provides a dry field for ideal visibility. It also minimizes post-surgical swelling, scarring and pain in a single instrument. The aim of this study was to evaluate the effects of CO₂ Laser (hard Laser) therapy in the treatment of periapical pathological conditions by digital radiographic assessment.

Methods: Thirty patients (18 males & 12 females), age ranged between 20-30 years suffering from periapical lesions related to either maxillary or mandibular teeth with radio-graphically evident apical radiolucency and free from any systemic diseases were selected in this study. Patients were divided equally into two groups: Group (1) unlased group-(control), which consisted of fifteen patients treated by conventional periapical surgery. Group 2, lased group consisted of fifteen patients treated using the carbon dioxide (CO₂) Laser.

Results: In unlased group, mucoperiosteal flap had a regular outline, bleeding was observed markedly during curettage of lesion. In Lased group mucoperiosteal flap appeared dry and bloodless with an irregular outline.

Conclusions: 1) Removal of periapical lesions could be achieved by using CO₂ Laser which causes vaporization and shrinkage that facilitate complete removal of the pathological tissues.

2) Using CO₂ Laser in periapical surgery can improve hemostasis with good visualization of the operative field and sterilization of the pathological cavity, in addition to the reduction of post-operative pain. 3) To avoid any thermal effect of Laser on bone, application of short impulses (2-3 seconds) and a power exceeding 4-5 watts with copious irrigation is highly recommended.

Biography:

Dr. Amr Ali El-Swify is an Egyptian professor of Oral & Maxillofacial surgery at Suez Canal University, he was graduated 1981, from faculty of oral&dental medicine, Cairo University where he got his PhD of oral&maxillofacial surgery 1993. He was the chairman of oral & maxillofacial surgery department from 2004 to 2009 at the Suez Canal University & from 2010 to 2015 at Sinai University. He supervised & was Member of the Referee Committee For 47Masters and Doctorate thesis. .Currently, he is the Chairman of Oral & maxillofacial surgery department at Suez Canal University, Egypt.