ER:YAG LASER IN PERI-IMPLANTITIS THERAPY. EVIDENCE AND CRITIQUE

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With the rapid advancement of implant dentistry, many complications are reported in the recent years. Although professional hygiene and daily self-care have been shown to be effective in reducing inflammation and probing depths in peri-mucositis and peri-implantitis, challenges associated with deeper pockets, bone defects and implant morphology decrease the effectiveness of traditional peri-implantitis therapy. Additionally, once exposed to the oral environment the implant roughness provides a favorable surface for bacteria colonization. When GBR is indicated around an implant, it is extremely difficult to remove effectively the biofilm with traditional methods without damaging the implant surface.

New modalities such as lasers have been advocated to overcome these limitations. Several types of lasers are used in the treatment of peri-implant diseases: Diode, Nd:YAG, Er:YAG and CO2 lasers. Amongst them, Er:YAG lasers are the most efficient in peri-implantitis treatment as a monotherapy or as an adjunct to traditional methods. Er:YAG lasers can be used both for non-surgical sulcular debridement and for flap surgery (incisions, granulation tissues removal, bone surgery, implant surface disinfection, uncovering implants in second stage implant surgery and for grafts harvesting).

The educational objective of the lecture is to summarize the advantages and current clinical applications of Er:YAG lasers in peri-implantitis therapy. The lecture is illustrated with author's scientific studies (morphological, microbiological etc.) and relevant clinical cases.