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The aim of this animal ex-vivo and human study is to determine the proper Er:YAG laser power settings to suggest applying them in humans study for gingiva depigmentation.

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Objectives:

1. Speed of removing pigmentation from the pigmented tissues that was measured by a stop watch
2. Controllability of stopping applying the laser when desired, that was measured by numbers
3. Amount of carbonized area
4. The best power setting for depigmentation depending on the results of the previous four objectives
5. Pain
6. Bleeding
7. Healing

Materials and Methods: Four pulse durations VLP, LP, SP, and MSP “that already exist in the AT FidalisFotona laser machine” were the basic for applying six power settings measured by J/cm² for each pulse duration in the animal study. Choosing of the power settings depended on trying the lowest setting available in the laser machine and increasing the power gradually up to 6J/cm² “below the ablation threshold of dentin, cementum and enamel. The animal is a sheep sacrificed less than 6 hours before the experiment. As a result, four power settings were suggested to be applied on human. Then, they were studied.

Results: The objective were answered by tables include numbers and cumulative results were concluded.

Conclusion: It seems that power settings range from 2J/cm² to 4J/cm² for VLP, LP, and SP are suitable to use in humans, considering some differences between them.

Biography

Yasser Tharwat Stas received a B.S. in Dentistry from Damascus University and is currently an occupational dentist specializing in LASER dentistry and Oral Implantology with the aid of microscope when treating patients at Al-Ogaly Polyclinic, Madinah, Saudi Arabia. A strong advocate for observing healthy oral hygiene and aesthetic smile, he aims for advanced technology practice in dentistry using CEREC Cad/CamChairside, and he encourages his patients in achieving the optimum oral health as well as providing them with options to acquire the best oral wellness. His professional interests focus on aesthetic dentistry especially on oral depigmentation using LASER, and his current projects include joining several conferences and training in order to gain more knowledge in the field of dentistry which he will in turn impart to other aspirant and practicing dentists. In addition, he recently finished his Masters of Science Degree in Oral Implantology from Goethe University, Germany and completed his Masters of Science Degree in Laser Dentistry from University Sains Malaysia.

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