



Smile Improvement: Aesthetic Treatment of Gingival Melanin Hyperpigmentation with Er:YAG Laser

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Introduction:

A 52-year-old female patient complained about aesthetically bothersome “dark spots” on her gums. The patient was explained that these spots are melanoplakia and that they are observed especially in people of specific ethnic groups, with dark skin. In the oral mucosa, microscopically, a greater pigmentation of the basal layer appears. Melanin is an endogenous pigment found in the skin of all people, distributed throughout the epidermis, except in albinos. These accumulations of melanin can be removed through different procedures. In this clinical case, the removal of gingival macules with the Er:YAG laser was recommended. The Er:YAG laser technique is performed on an outpatient basis and does not require any type of preparation prior to treatment or special care after the intervention, since it is not necessary to close the wound with sutures.

Laser	LightWalker AT-S
Wavelength	2940 nm
Handpiece	H02 (non-contact)
Energy	100 - 150 mJ
Mode	MSP – SP - LP
Frequency	10-12 Hz
W/A	0/4
Sessions	1



Dr. Marcela Bisheimer Chemez received her Degree in Dentistry from the National University of Rosario, Argentina in 1990 and completed her Specialization in Oral Medicine and Osteointegrated Implants at the Complutense University of Madrid (UCM), Spain. She further received a Postgraduate Diploma in Dentomaxillary Surgery from the University Hospital “Gregorio Marañón” in Madrid in 1994 and a Doctorate in Dentistry from the Complutense University of Madrid in 2004. She is Collaborating Professor of Postgraduate UCAM, Master in Dental Sleep of Medicine, since 2019. She completed the certification exam SEMDES-FESMES of Expert in Dental Sleep Medicine in 2020.

Dr. Bisheimer Chemez has been the Medical Director of the Bisheimer Clinic in Madrid, a laser reference and training center since 2002. She has also completed the LA&HA institute Certification training for NightLase Snoring and Apnea Treatments and Perioral Aesthetic and Dentistry Treatments in July, 2017 and received the title of Advanced Instructor by LA&HA. Dra Bisheimer Chemez is the former President of the Spanish Society of Laser and Phototherapy in Dentistry (SELO).

CLINICAL CASE:

In this clinical case, the treatment was performed in a single session. The ablation procedure was carried out with the parameters described in the Table. Only topical anesthetic was used, not requiring the infiltration of other types of anesthetics. This is because the photothermal effect produced by the Er:YAG laser is low and easily controlled, prioritizing the photomechanical effect for this procedure without unnecessary heating. The wound that remained from the laser ablation did not cause bleeding. However, the patient was instructed to wear compression gauze for 20 minutes and cover the wound with chlorhexidine for the first three days postoperatively.

In the photographic images, you can see the wound immediately after the intervention and the post-surgery control wound 4 weeks later, in which a significantly successful result can be seen, with a high degree of patient satisfaction.

Depending on the mucosal extensions that are affected, the Er:YAG laser ablation procedure can be performed in one or more sessions as required. During the procedure, it is recommended to stop the ablation when bleeding begins to be observed on the surface, which indicates that we have reached the deep mucosa. By varying the pulse width, from short pulses to longer pulses, the ablation and coagulation effect can be controlled as needed. If there is still an accumulation of melanin in the deep layers, it is recommended to continue with greater caution or continue in another session. The patient is informed that these melanocytic clumps may recur and that in this case the Er:YAG laser ablation procedure can be repeated.

Er:YAG laser treatment of gingival melanin hyperpigmentation is an easy and comfortable technique for both the operator and the patient. The immediate postoperative period is usually without discomfort or pain.



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