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## Aesthetic treatment of gingival melanin hyperpigmentation with Er:YAG laser: an injection-free technique

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### Parameters:

|                 |                 |
|-----------------|-----------------|
| Laser source:   | Er:YAG, 2940 nm |
| Pulse duration: | VLP             |
| Energy:         | 100 mJ          |
| Frequency:      | 12 Hz           |
| Handpiece:      | R02-Ti          |

### Treatment procedure:

Gingival hyperpigmentation is caused by excessive deposition of melanin in the basal and suprabasal cell layers of the epithelium. This clinical situation represents a common cosmetic concern, particularly in patients having a very high smile line. Various depigmentation techniques have been described in literature, such as scalpel surgery, gingivectomy, cryosurgery, electrosurgery, chemical agents, and laser treatment.

This patient was referred to our center for cosmetic rehabilitation with a major concern about her gingival hyperpigmentation. The sequenced treatment plan included: teeth preparation for ceramic laminate veneers, provisional placement; then a depigmentation procedure was performed using the Er:YAG laser in our AT Fidelis system with the parameters described above. The entire depigmentation procedure was performed without any anesthetic injection because relatively low pulse energy was used. The use of Er:YAG laser for melanin pigmentation removal assured no scarring and fast wound healing, due to a low thermal effect on the tissue.

The immediate aesthetic outcome was significant, and the patient was highly satisfied with the results after the final crowns placement. After a 6-month follow up, the described procedure showed a successful aesthetic outcome.



Before treatment



After



After



After 6 months



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