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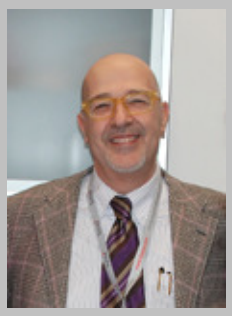

Treating Amelogenesis Imperfecta with the Er:YAG Laser

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One of the greatest advantages in using the Er:YAG laser in dentistry is that it allows the dentist to perform minimally-invasive dental procedures. This is important for every treatment, but it becomes particularly interesting in the treatment of enamel lesions which are not related to decay, but that originate due to a defect in the formation of teeth also known as amelogenesis imperfecta.

This case study describes the treatment of a fifteen year-old female patient with amelogenesis imperfecta of the upper central incisors. For this case there was no alternative treatment possibility, such as creating a rubber dam, because the patient had a splint as a result of pervious orthodontic treatment (Fig. 2).

When treating these type of lesions, it is important that we ablate the minimum volume of enamel and, at the same time, give the maximum result possible in terms of aesthetic appearance. We decided to use the Fotona Er:YAG laser, which can produce precise and minimally-invasive ablation. When removing the discolored enamel, the laser – set at SSP pulse mode - had a shallow, peeling-like effect. It was extremely easy to control the area of ablation and, in this way, ablate only the discolored enamel. No anesthesia was necessary and the patient felt no pain.

Parameters:

Laser source:	Er:YAG (2940 nm)
VSP Mode:	SSP (50 µsec)
Pulse energy:	150 mJ
Frequency:	10 Hz
Handpiece:	R02-C – Non Contact mode (0.8 mm)

No acid etching was needed prior to adhesion because the laser produces the ideal surface for adding composite resin. Also, any type of composite can be used. The patient was very satisfied with the result.

Fig. 1: White lesions on upper central incisors

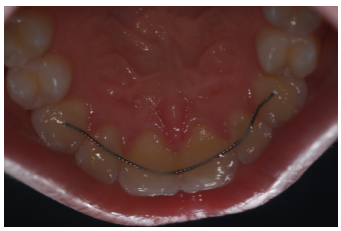

Fig. 2: Palatal splinting on upper front teeth

Fig. 3: Er:YAG treatment

Fig. 4: The ablated enamel after laser treatment

Fig 5: End result

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