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Leukoplakia Case Report

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Leukoplakia is a common oral lesion often found in smoker's mouths. The buccal mucosa is most commonly affected, especially along the occlusal line near molar teeth, but it can appear in all other zones of the oral cavity. It is characterized by keratosis patches on the mucous membranes, and is considered precancerous.

In this case, during a regular exam of a 55 year old woman with a 30-year history of smoking, we found white plaque with a striated structure below the tongue in the area of the sublingual salivary duct opening (see Fig. 1). She was not bothered by it, but noticed that the white spot had appeared around a year earlier. The patient was calm and we decided to treat the lesion without anesthesia.

We began with Long Pulse (300 µs) and 150 mJ of energy at 5 Hz, with some water and air (2/2) to avoid rapidly changing the appearance of the lesion and to have a more clear vision of how deeply the beam penetrated. With these settings, the energy penetrates deeper and quickly cuts away the plaque from the underlying mucosa, which is noticeable when bleeding starts. The lesion becomes quickly and efficiently detached and loosened from the base tissue. Now, after switching to Very Long Pulse (600 µs), again with the same energy and repetition rate, water and air, we began with smoothening the wound surface, coagulation of the bleeding points and final removal of any residual leukoplakia tissue.

At the end of the procedure (see Fig. 2) the patient left the clinic with no bleeding and without need for dressing of the treated area. She was instructed in proper mouth washing with salt water and a herbal extract (chamomile). A week after exam, an absolutely intact mucosa was observed without scarification or any complaints from the patient (see Fig. 3).

Conclusion: The **Two-Layer Approach**, as we named the procedure, is suitable for large, flat oral lesions, where precise depth control of the laser's penetration is needed, thus ensuring proper removal of the affected tissues. Using the coagulation setting allows the patient to leave the clinic without complicated care for the dressing of the wound, and promotes excellent healing without scarification.

Parameters:

Laser source:	Er:YAG
Wavelength:	2940 nm
Pulse duration:	LP / VLP
Energy:	150 mJ
Frequency:	5 Hz
Handpiece:	H02-C
Spray:	2/2

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Fig. 1: Before Treatment.

Fig. 2: Immediately after Tx.

Fig. 3: One week after Tx.