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Dr. Jasmina Kozarev, MD

Dr. Kozarev has over fifteen years of experience in dermatology and skin disease treatment. She has performed over 2500 skin laser surgeries. Throughout her career Dr. Kozarev has gained a tremendous amount of experience using lasers on a daily basis. Throughout her long-standing cooperation with Fotona she has worked with virtually all of Fotona's laser systems in the aesthetic and surgery range and currently owns the SP Dualis.

Treatment of Post-Filler Granuloma Formation

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In a prospective study we tested if Fotona's QX MAX Q-switched Nd:YAG laser could be used to successfully treat post-filler granuloma formation.

Anamnesis:
A 48-year-old female patient developed a granuloma formation 8 months after the first Hyaluronic Acid (HA) injection. The patient underwent clinical management, biochemical blood tests, hormonal analysis, immunology tests, biopsy and follow-up. Laboratory abnormalities revealed that the patient has a history of EEM (Erythema Exsudativum Multiforme) and developed contact dermatitis to nickel sulfate and latex. A cutaneous examination revealed very light erythematous and several hyperpigmented nodular lesions in a linear pattern which measured 0.5 to 3 cm in diameter. The patient had abnormal collagen and elastic fibers and necrotic dermal content in the upper dermis showing transepidermal elimination.

Procedure:

- Anesthesia was achieved with phonophoretic application of lidocaine for 10 minutes prior to each of the three treatments. During the procedure cold air cooling was additionally used.
- In the three treatment sessions we first used a Q-switched Nd:YAG laser *(QX MAX)*.
- Immediately after the Q-switched laser, we applied a fractional Er:YAG laser *(SP Dualis*) session
- After the fractional Er:YAG procedure we introduced 40 mg/ml of Triamcinolone Acetonide evenly across the treated skin tissue.
- Follow-up time was 10 months.

Suggested parameter settings:

	1st Pass	2nd Pass
Laser source:	QS Nd:YAG (1064nm)	Fractional Er:YAG (2940 nm)
Spotsize:	4 mm	10 mm
Fluence	4.5 – 5.6 J/cm²	5 J/cm2 (Turbo 4)
Frequency:	10 Hz	N/A
Handpiece:	N/A	PS01
Pixel number and size:	N/A	75 / 500 µm

Results:
Results revealed laser treatment with a Q-switched Nd:YAG laser is an effective noninvasive treatment modality for the reduction of hyperpigmentation, pigmented infiltration and reduction of biofilm in granulomatous reactions to HA gel injections. By using laser energy that penetrates deep without injuring the top layer of the skin, the deep dermis is stimulated to produce natural collagen and other vital proteins that make up healthy skin.

Only lasers with pulses in the nanosecond region (5-20 ns), like the Q-switched Nd:YAG laser in the QX MAX, are able to successfully remove pigmented inflammatory infiltration and biofilm without significant skin destruction. Skin textural changes generally resolve within 4-6 weeks, suggesting an optimal treatment interval. The fractional Er:YAG laser treatment additionally removes inflammatory and pigmented cells, and induces regeneration in the epidermal and dermal compartment. The small areas of untreated skin around the regularly spaced micro-holes speed up re-epithelialisation, recovery and healing, with a minimal risk of complications.

Before

After

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