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The Efficiency of Laser Onychomycosis Treatment with Er:YAG in Non-ablative Mode

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SUMMARY

Onychomycosis is a fungal infection of the nail, which affects approximately 10-30% of the world's population. It occurs more often in the elderly, immunocompromised individuals, smokers, patients with peripheral vascular disease, and in people with a family history of onychomycosis. Diagnosis of onychomycosis is based on a combination of clinical evaluation, KOH test, mycological culture and histological examination by periodic acid-Schiff (PAS) staining. Today the most common and widely accepted method of treatment is oral systemic therapy combined with local antifungal agents.

Although systemic antifungal therapy can be effective (up to 80%) and represents a standard therapy for onychomycosis, it is also accompanied by many undesirable effects associated with the necessary long-term use of antifungals. Side effects often include nausea and headache, and although rare, may include liver failure and heart problems, which can even lead to death. Therefore, in elderly patients and patients with a compromised immune system, the monitoring of liver enzymes during treatment is necessary. In addition, systemic antifungals may interact with other drugs which can cause additional side effects.

Recently, lasers have also been used as a therapeutic light source for treating nail infections. Numerous studies have shown that laser treatment of onychomycosis enables faster treatment with a very low rate of potentially undesirable effects. Laser therapy using Nd:YAG laser is an FDA recognized method and is useful for a wide range of patients. It represents an advantage especially for the elderly and immunocompromised patients and patients with liver failure, for which standard methods with the use of systemic antifungal agents pose a significant risk.

In this presentation the preliminary results of laser treatment of onychomycosis using Er:YAG in non-ablative mode will be presented.