

WORLD CONGRESS OF ADVANCES IN OTORHINOLARYNGOLOGY, HEAD & NECK CARE

April 28-29, 2025 | VIENNA, AUSTRIA



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Efficacy of Erb-Laser on Inferior Turbinate Hypertrophy: A Retrospective and Cohort Study

Objectives: Nasal obstruction (NO) is a very common complaint in the practice of otolaryngology. The cause of NO can be due to inferior turbinate hypertrophy (ITH), which may be a result of allergic rhinitis, hyperreactivity, hormonal causes, rhinitis medicamentosa or idiopathic. The most commonly used treatments today include local nasal or systemic corticosteroids, cauterization or microdebrider, or thermal ablation with radiofrequency, coblation or ablative laser (mainly carbon dioxide or diode lasers), and submucosal reduction. Erbium YAG laser in non-ablative and SMOOTH thermal mode is considered as a non-invasive treatment and could be a novel and safe alternative. The aim of this study was to evaluate the safety and performance of a new Erb-laser treatment protocol on bilateral ITH, during and after 3 sessions of treatment throughout 6 months.

Methods: This retrospective study was carried out over 30 patients with complaints of NO, sneezing, itching, discharge, and nasal congestion refractory to medical management from July 2019 to December 2020 in the Department of Otorhinolaryngology of a private hospital in Famagusta, North Cyprus. Symptoms were evaluated subjectively by using NO Score and Visual Analog Scale (VAS). Patients were evaluated at the post-procedural 1st-week, and 1st-, 3rd-, and 6th-month postoperatively. During each follow-up visit, symptoms were reassessed by VAS and NO Score.

Results: Differences between pre-operative and post-operative VAS and NO Scores were statistically significant. All patients had significant symptomatic improvements, which started from the post-operative 1st week and persisted throughout the follow-up period. The active laser treatment showed high improvement during and after the procedure, regarding NO, and decreased the nasal burden on quality of life.

Conclusion: Erbium YAG laser treatment is a simple, safe, effective, and non-invasive method effective on ITH, with minimal damage on the nasal mucosa. It can be done as an office procedure, with minimal complications. This method will provide a great advantage in the future treatment of NO.

Keywords: Inferior turbinate hypertrophy; laser; nasal obstruction; nasal obstruction scale; visual analog scale.

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