Office-Based Blue-Laser Treatment for Reinke Edema and Vocal Fold Polyps

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Introduction and aim: To date, most laryngologists treat Reinke edema (RE) and vocal fold polyps (VFP) in the operating room. Few studies have reported multidimensional voice outcomes following office-based blue laser (OBL) resection. This study investigates the feasibility, kinetic regression, and voice outcomes of OBL for RE and VFP.

Material and methods: Patients with VFP or RE were consecutively recruited from a European voice clinic and were treated with OBL. Clinical evaluations were performed at baseline, 1 month, and 3 months post-OBL, including Reflux Symptom Score (RSS) and Reflux Sign Assessment (RSA). Voice quality was assessed using VHI, GRBASI, AVQI, DSI, MPT, intensity range, and acoustic parameters. Univariate analysis explored associations between variables.

Results: Twenty-three RE and 13 VFP were included; no adverse events occurred. RE showed significant decrease at 3-months, with significant increased F0 and HNR. No changes were objectified at 1-month post-treatment. VFP demonstrated complete regression at 3-months (75–100% in all cases). In this group, MPT, sCPP, and RSS significantly increased at 3-months, while %shimmer and HNR significantly improved at 1- and 3-months. Patient age was associated with the changes of MPT (r=-0.506), percent jitter (r=0.510), F0 range (rs=0.592), sCPP (rs=-0.516), and AVQI (rs=0.409). Reflux had no impact on voice outcomes.

Conclusion: OBL is a feasible and safe procedure for VFP and RE , achieving short-term maximum voice quality improvement after 3 months for Reinke edema and between 1- and 3-month post-OBL for vocal fold polyps.