Vocal outcomes after treatment of benign laryngeal lesions with blue laser: initial experience of the Department of Otorhinolaryngology, Split University Hospital

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The application of blue laser in laryngeal surgery represents a modern therapeutic modality particularly suitable for the treatment of benign vocal fold lesions, such as polyps, nodules, cysts, Reinke's edema and papillomatosis. The technological properties of the blue laser allow for high resection precision with minimal thermal trauma to the surrounding tissue, ultimately resulting in more favorable functional outcomes compared to conventional methods. The assessment of treatment effects cannot be limited solely to intraoperative success but requires systematic monitoring of the vocal function. Objective and subjective measures are both employed for this purpose, including acoustic parameters, aerodynamic indicators, and standardized self-assessment questionnaires. Evaluation in the preoperative and postoperative periods enables precise monitoring of recovery and the need for rehabilitation. Preliminary observations indicate a reduction in perturbation parameters, prolongation of maximum phonation time, and a significant improvement in the results of subjective questionnaires already within the first postoperative month. In conclusion, blue laser demonstrates a high efficacy and safety in the treatment of benign vocal fold lesions, with vocal function preservation and improvement. Systematic and standardized voice evaluation is necessary for an objective monitoring of therapeutic outcomes, while speech-language pathology assessment and rehabilitation may further contribute to a long-term stability and quality of the vocal function.

Key words: blue laser, benign laryngeal lesions, vocal outcomes