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Subthreshold Laser Therapy for Diabetic Macular Edema: Metabolic and Safety Issues.

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Abstract

Purpose: To review the most important metabolic effects and clinical safety data of subthreshold micropulse diode laser (D-MPL) in diabetic macular edema (DME). Methods: Review of the literature about the mechanisms of action and role of D-MPL in DME. Results: The MPL treatment does not damage the retina and is selectively absorbed by the retinal pigment epithelium (RPE). MPL stimulates secretion of different protective cytokines by the RPE. No visible laser spots on the retina were noted on any fundus image modality in different studies, and there were no changes of the outer retina integrity. Mean central retinal sensitivity (RS) increased in subthreshold micropulse diode laser group compared to standard ETDRS photocoagulation group. Conclusions: MPL is a new, promising treatment option in DME, with both infrared and yellow wavelengths using the less aggressive duty cycle (5%) and fixed power parameters. It appears to be safe from morphologic and functional point of view in mild center involving DME.

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