Format: Abstract

Photomed Laser Surg. 2008 Jun;26(3):241-5. doi: 10.1089/pho.2007.2132.

Low-level laser therapy improves vision in patients with age-related macular degeneration.

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Abstract

OBJECTIVE: The objective of this study of a **case** series was to examine the effects of low-level laser therapy (LLLT) in patients with age-related macular degeneration (AMD).

BACKGROUND DATA: AMD affects a large proportion of the elderly population; current therapeutic options for AMD are limited, however.

PATIENTS AND METHODS: In total, 203 patients (90 men and 113 women; mean age 63.4 +/- 5.3 y) with beginning ("dry") or advanced ("wet") forms of AMD (n = 348 eyes) were included in the study. One hundred ninety-three patients (mean age 64.6 +/- 4.3 y; n = 328 eyes) with cataracts (n = 182 eyes) or without cataracts (n = 146 eyes) were treated using LLLT four times (twice per week). A semiconductor laser **diode** (780 nm, 7.5 mW, 292 Hz, continuous emission) was used for transconjunctival irradiation of the macula for 40 sec (0.3 J/cm2) resulting in a total dose of 1.2 J/cm2. Ten patients (n = 20 eyes) with AMD received mock treatment and served as controls. Visual acuity was measured at each visit. Data were analyzed retrospectively using a t-test.

RESULTS: LLLT significantly **improved** visual acuity ($p < 0.00001$ versus baseline) in 162/182 (95%) of eyes with cataracts and 142/146 (97%) of eyes without cataracts. The prevalence of metamorphopsia, scotoma, and dyschromatopsia was reduced. In patients with wet AMD, edema and bleeding **improved**. The **improved** vision was maintained for 3-36 mo **after** treatment. Visual acuity in the control group remained unchanged. No adverse effects were observed in those undergoing therapy.

CONCLUSION: In patients with AMD, LLLT significantly **improved** visual acuity without adverse side effects and may thus help to prevent loss of vision.

PMID: 18588438 DOI: 10.1089/pho.2007.2132

[Indexed for MEDLINE]