Results of radiotherapy of subfoveal neovascularization with 16 and 20 Gy.

Abstract:

PURPOSE: In a nonrandomized, prospective study the efficacy of radiotherapy with 16 and 20 Gray (Gy) for subfoveal neovascularization in age-related macular degeneration (ARMD) was analysed. MATERIAL AND METHODS: From 1996 to 1998, 63 eyes were irradiated with 16 Gy and 38 eyes with 20 Gy for exudative ARMD. A total of 12 eyes had classic ARMD, 89 eyes occult ARMD, median baseline visual acuity (VA) was 6/30 (range: 3/60-6/9.5), median age was 78 years. Risk factors (type of ARMD, baseline VA) were evenly distributed in both groups. Median follow-up was 1.3 years (range: 4 months-4.7 years). VA of +/-1 line or better and unchanged size and activity of the membrane in fluorescein angiography were defined as stable. Actuarial methods were used. RESULTS: Median loss of VA was -3 lines (range: -14 to +5), neovascularization remained unchanged or decreased in size and activity in 35 eyes. At 18 months, the probability of stabilized VA was 0.4 (95% confidence interval (CI): 0.3-0.5), at 24 months 0.3 (95% CI: 0.2-0.4). Radiation dose, type of ARMD or baseline VA had no significant impact on outcome of VA and membrane size and activity (P>0.05). Side effects were mild and transient increased tearing.

CONCLUSION: In this study, the results after radiotherapy were comparable to the natural course of the disease. An impact of radiation dose (16 vs 20 Gy) on stabilizing visual acuity and subfoveal neovascularization could not be
shown. The results of studies on dose escalation using very small fields and high radiation doses should be awaited.

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