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Long-term Effect of Scleral Encircling on Axial Elongation

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Abstract

Purpose: To determine the long-term effect of scleral encircling on the progression of myopia

Design: Retrospective, clinical cohort study

Methods: SETTING: Single-center academic hospital (Severance Hospital)**.**

STUDY POPULATION: The study included seventy-six eyes of 38 patients (mean age 37.21 ± 15.76) who have undergone retinal detachment surgery with scleral encircling

OBSERVATIONAL PROCEDURES: Axial length was measured preoperatively, at 6 months after surgery, and at the most recent visit. They were followed-up for at least 12 months.

MAIN OUTCOME MEASURE: We compared the changes of axial length per month between operated eyes and contralateral eyes(control group).

Results: Operated group showed more rapid changes in axial length from 6 months after surgery to the time of the last follow-up than that in control group (0.020 ± 0.033 mm/month vs. 0.002 ± 0.002 mm/month, *P*= .002; mean follow-up, 26.05 ± 11.39 months). Similar trends were observed during the entire follow-up period (0.065 ± 0.062 mm/month vs. 0.008 ± 0.020 mm/month, *P* < .001). Subgroup analysis showed that both myopic and highly myopic group showed no significant difference of changing rate of axial length during the first 6 postoperative months (*P* = .267), from 6 months after surgery to the final assessment point (*P*= .144) or over the entire observation period (*P*= .507).

Conclusions: Encircling the sclera may accelerate progression of myopia by significantly increasing axial length. The degree of myopia itself does not contribute to a significant difference in the increased axial length.