

Title

[Spatial contrast sensitivity in patients with severe myopia]

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Source

J Fr Ophtalmol, 1996, 19:4, 271-7

Abstract

PURPOSE: The purpose of this study was to assess the effects of amount of myopia, axial elongation staphyloma and type of optical correction on contrast sensitivity of high myopic subjects. **METHODS:** Fifty-one patients (91 eyes) were selected on the following qualifications: myopia ≥ 8 dpt and/or axial length ≥ 26 mm, and visual acuity ≥ 0.1 recorded through spectacle lenses. Contrast sensitivity was measured using a "Moniteur Ophtalmologique" for all subjects when corrected with spectacle lenses, and thereafter on a lot of patients (50 eyes) wearing a contact lens. **RESULTS:** Contrast sensitivity obtained with spectacle lenses was significantly decreased over the whole spatial frequency range. The higher the spatial frequency was, the lower contrast sensitivity was. The impairment increased with the amount of myopia and axial length, but without positive correlation. Contrast sensitivity was significantly lower for only the three highest spatial frequencies measured (6.4; 12.8 and 25.6 c/deg), when a staphyloma ($n = 52$) was present by comparison with results obtained for eyes without staphyloma ($n = 39$). Differences between the two situations (spectacle lens vs. contact lens) were not significant for eyes wearing daily spectacle lenses; conversely, for myopic subjects generally fitted with contact lenses, contrast sensitivity with contact lenses was significantly better than that measured with spectacles for the three highest spatial frequencies tested. **CONCLUSION:** This suggests that the decrease in contrast sensitivity measured in high myopia is related to defects in the optical and neuro-retinal systems.

Language of Publication

French

Unique Identifier

96318770