

Topical cyclosporine to control ocular surface disease in patients with chronic glaucoma after long-term usage of topical ocular hypotensive medications.

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Abstract

PURPOSE:

To evaluate changes in ocular surface and central corneal sub-basal nerve fiber layer (SBNFL) after topical cyclosporin therapy in chronic glaucoma patients on long-term topical antiglaucoma therapy.

METHODS:

A prospective comparative study of ocular surface evaluation of chronic glaucoma patients on long-term topical therapy treated concurrently with a topical cyclosporine 0.05% twice daily for 6 months and controls was done. The study parameters evaluated at recruitment and at the 6-month follow-up included details of topical antiglaucoma medications, visual acuity, intraocular pressure, ocular surface evaluation parameters (TBUT, Schirmers I, ocular surface staining scores and ocular surface disease (OSD) index score (OSDI)), central corneal sensation (Cochet Bonnett aesthesiometer), and central confocal microscopy to study the SBNFL density (SBNFLD).

RESULTS:

Thirty-two eyes of 16 patients with chronic glaucoma and 30 eyes of 15 normal subjects as controls were studied. Mean TBUT, pre/post CsA treatment was $8.67 \pm 3.01 / 12.24 \pm 1.83$ s ($P=0.007$). Mean conjunctival/corneal staining scores pre/post CsA treatment were $3.38 \pm 1.93 / 1.50 \pm 0.718$ ($P=0.00$) / $5.19 \pm 1.82 / 1.81 \pm 0.78$ ($P=0.098$), respectively. Mean OSDI pre/post CsA treatment scores were $30.63 \pm 14.61 / 14.76 \pm 6.06$ ($P=0.007$). **Mean corneal sensations scores pre/post CsA treatment were $4.64 \pm 0.46 / 4.94 \pm 0.39$ ($P=0.002$). Central corneal SBNFLD pre and post CsA treatment was $8811.35 \pm 2985.29 / 10335.13 \pm 4092.064$ $\mu\text{m}/\text{mm}^2$ ($P=0.0001$).**

CONCLUSIONS:

Schirmer's test, ocular surface staining scores, OSDI, corneal sensations, and corneal SBNFLD showed a statistically significant improvement following a 6-month concurrent topical CsA therapy.