78a-Topical Cyclosporin A in the management of postkeratoplasty Corticosteroid-Induced Ocular Hypertension (CIOH) and glaucoma

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The use of topical steroids in post-keratoplasty patients can both worsen pre-existing glaucoma and induce glaucoma in previously normal patients. 20-30% of the general population respond moderately to topical corticosteroids. 5-7% of the general population exhibit a more severe corticosteroid response, characterized by an increase in intraocular pressure (IOP) of more than 15 mm Hg. In addition, topical steroids will increase IOP in as many as 92% of glaucoma patients.

With these figures in mind, Henry D. Perry, MD of Tockville Center, NY, and colleagues undertook to study whether topical cyclosporin A may be substituted for topical corticosteroids in post-keratoplasty patients with corticosteroid-induced ocular hypertension (CIOH) and glaucoma.

Cyclosporin A has been shown to have no effect on IOP. Furthermore, cyclosporin A does not inhibit the body's protective phagocytic system as greatly as do steroids. Similarly, cyclosporin A does not inhibit wound healing.

Sixty-six patients selected for the study all fulfilled the following criteria: 1) their penetrating keratoplasty (PK) had been performed between 2 weeks and 4 years prior to presentation, 2) they were on glaucoma medication or had an IOP > 21 mm Hg, 3) they required topical steroids, and 4) they signed informed consent. Follow-up was for a mean of 18 months.

Upon entry into the study, topical cyclosporin A 0.5% was substituted for topical steroids on a drop-for-drop basis.

Fifty-four patients (82%) showed a mean reduction in IOP of 10.2 mm Hg after switching to cyclosporin A. Twenty patients (30%) were able to discontinue one or more glaucoma medications after switching from topical steroids to cyclosporin A.

Graft clarity was maintained in 62 of 66 patients (93%). There were 6 episodes of allograft graft rejection, 2 of which were reversed after re-institution of topical corticosteroids, and 4 of which were irreversible.

In conclusion, Dr. Perry stated that topical cyclosporin A may be substituted for topical corticosteroids in the management of post-keratoplasty corticosteroid-induced ocular hypertension and glaucoma. However, the beneficial decrease in IOP must be weighed against a possible increased risk for immune-mediated graft rejection.

This paper was discussed by Terrence P. O'Brian of the Wilmer Institute of Johns Hopkins University in Baltimore, MD. Dr. O'Brian agreed with Dr. Perry for the need for a method to ameliorate corticosteroid-induced rises in IOP in post-keratoplasty patients.

Can topical cyclosporin A fill this need? This study demonstrates a significant reduction in IOP in a majority of eyes after switching to cyclosporin A. The primary concern, Dr. O'Brian agrees, is whether this therapy will lead to a higher incidence of immunologic graft failure. Only larger, randomized, prospective trials will determine whether the benefits are worth the potential risks of this therapeutic approach.