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Abstract Information

Abstract Title:

BLOOD-AQUEOUS BARRIER CHANGES FOLLOWING THE USE OF PROSTAGLANDIN ANALOGUES IN PSEUDOPHAKIC AND APHAKIC PATIENTS: A SIX-MONTH, RANDOMIZED TRIAL

Purpose:

To investigate the effects of prostaglandin analogues on the blood-aqueous barrier and the occurrence of cystoid macular edema (CME) in aphakic or pseudophakic patients with glaucoma.

Design:

Randomized, masked-observer, 6-month clinical trial.

Participants:

80 patients with primary open-angle, pseudophakic or aphakic glaucoma

Main Outcome Measures:

Blood-aqueous barrier status assessed by the laser flare meter, intraocular pressure (IOP), occurrence of angiographic CME and conjunctival hyperemia.

Methods:

Patients were randomized to bimatoprost q.d. (n=16), latanoprost q.d. (n=15), travoprost q.d. (n=17), unoprostone b.i.d. (n=16), or duasorb b.i.d. (control group) (n=16).

Results:

Mean flare values were significantly higher in the bimatoprost, latanoprost and travoprost groups during all follow-up ($p < 0.019$). Four latanoprost-treated eyes (27%), one bimatoprost-treated eye (6%), and one travoprost-treated eye (6%) developed CME. All CME cases resolved after discontinuation of the prostaglandin analogue and treatment with topical diclofenac. Mean IOP reductions after 6 months were higher for the latanoprost (26%), bimatoprost (28%), and travoprost (29%) groups than for the control (3%) and unoprostone (14%) groups ($p < 0.05$). Bimatoprost induced significantly higher hyperemia scores than latanoprost, unoprostone and placebo ($p < 0.01$).

Conclusion:

Bimatoprost, latanoprost and travoprost may lead to disruption of the blood-aqueous barrier in pseudophakic and aphakic patients.