Restraining Inflammation in Pseudoexfoliation Syndrome

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Patients with pseudoexfoliation syndrome (PEX) experience more intense inflammation after phacoemulsification compared to routine cataracts. The effect of topical nonsteroidal anti-inflammatories (NSAIDs) in eyes with PEX have not been studied to date. Laser flare photometry was used in this study to evaluate subtle amounts of postoperative inflammation. The addition of bromfenac to dexamethasone ophthalmic solution significantly reduced anterior chamber inflammation after cataract surgery in PEX when compared to dexamethasone alone. Postoperative macular thickness at optical coherence tomography (OCT) was also positively affected by the addition of topical bromfenac.

Keywords
Pseudoexfoliation syndrome, bromfenac ophthalmic solution, cataract surgery

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treated with bromfenac. Although the study was not designed to adequately estimate macular edema, the difference in central macular thickness at OCT between the two groups was statistically significant. This difference could be clinically relevant because changes in macular thickness as low as 10 microns may have a considerable effect on contrast sensitivity. Interestingly, intraretinal cysts on OCT were not detected in any bromfenac recipients, but four patients receiving standard care developed subclinical cystoid macular edema at week 4.

Use of laser flare photometry in this study made it possible to accurately measure anterior chamber inflammation. This method is objective and highly reproducible. Most published studies on topical NSAIDs after cataract surgery were based on subjective slit lamp evaluation of postoperative inflammation by an ophthalmologist. These grading systems were based on uveitis studies and might be inappropriate to evaluate clinical conditions where the amount of postoperative inflammation is minimal, such as after uneventful phacoemulsification. The updated Laser Flare Meter FM-700 (Kowa Company, Ltd., Aichi, Japan) can precisely differentiate anterior chamber flare on a scale from 2 to 1000 ph/msec.

This study analyzed the effect of steroids and NSAIDs in a specific population (i.e., patients with PEX) and found that the combination of the two provided better anti-inflammatory effects than topical steroids alone. Laser flare meter and high-resolution OCT should be used in larger populations in order to study the effects of topical steroids and NSAIDs, alone or in combination, on intraocular inflammation after cataract surgery.