**Evaluation of ocular surface disease associated with glaucoma patients**

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**Purpose:** To evaluate the presence of ocular surface disease (OSD) by using Ocular Surface Disease Index Questionnaire (OSDI), Schirmer test, break-up time and lissamine green staining test and investigate the relationship between OSD and glaucoma severity and treatment in patients with glaucoma.

**Methods:** The prospective observational study enrolled patients with primary open angle glaucoma, ocular hypertension and pseudoexfoliation glaucoma. Medical history, demographics, number and type glaucoma medications were collected. Each patient completed an OSDI and underwent evaluation by Schirmer test, break-up time, and lissamine green test.

**Results:** Two hundred eight eyes evaluated in this study (126 primary open angle glaucoma, 51 pseudoexfoliation glaucoma and 31 ocular hypertension eyes). Mild, moderate or severe OSDI scores was observed for 76.9% patients. Schirmer test showed 52.4% of the patients had a decrease in tear production. Positive results for lissamine green staining were found in 66.3%, abnormal tear quality was observed in 84.6% patients. There was no correlation between the objective ocular surface assessments and the OSDI scores except Schirmer test results. OSDI scores and results of objective ocular surface assessments were to be higher in patients with pseudoexfoliation glaucoma and primary open angle glaucoma than in the ocular hypertension (p ≤ 0.05). No relationship was observed between severity of glaucoma and OSDI scores and clinical tests. Receiving no glaucoma treatment was predictive of a low OSDI score and low parametric tests scores. Severity of OSD was correlated with number of glaucoma medication and duration of therapy. All glaucoma medications contain benzalkonium chloride.

**Conclusion:** OSD is associated with majority of glaucoma patients. The severity of OSD is correlated to the number of medication and long term use of topical eye drops. It would be advisable to use of preservative free glaucoma medications whenever possible.