small to result in a GDx defect, and follow-up studies are underway.

Poster 38

Use of Fluorophotometry to Evaluate *in vivo* Residence Time of Systane® Ultra Lubricant Eye Drops as Compared to a Placebo Control

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Purpose: The aim of this study was to evaluate ocular surface retention time of a lubricant eye drop in dry eye patients using fluorophotometry (Fluorotron Master; Ocumetrics, Inc.).
Methods: This is a double masked, randomized, single eye crossover study design with 25 targeted confirmed dry eye patients. Patients are required to have 2 of the following at screening: composite symptom score>5 (modified Schein Questionnaire); NaFl TFBUT < 7 sec; NaFl corneal staining sum score>3 (NEI grid; 0-3/area, max 15 pts). Test eye is the eye with the most rapid TFBUT. The test (PG/PEG based tear) and control (saline) solutions were admixed with a fluorescein-labeled dextran of ~70,000 MW (at 0.1% wt/vol) to reduce adsorption. Baseline intrinsic corneal fluorescence is measured followed by instillation of one 25cμL drop of admixed solution per randomization in the test eye. Measures are taken as rapidly as possible in the initial 8 minutes, and then every 2 minutes thereafter until baseline signal is regained. The return to baseline is defined as the time when the first of 3 consecutive fluorescent values that are within 2 standard deviations of intrinsic corneal fluorescence are noted. All visits are performed on the same half day a minimum of 24 hours apart.
Results: Preliminary, masked results show a statistical difference ($P = 0.00076$) in mean retention time of solution A (mean = 30.02 min + 13.5) versus solution B (mean = 20.76 min + 7.7). Mean age = 49 yrs + 9.2.
Conclusions: This study was designed to determine if there is a difference in ocular surface retention between the 2 test solutions. The artificial tear test solution was formulated as a viscoelastic droppable gel to demonstrate that additional precorneal retention can be provided when compared with a saline control. Follow-up studies will compare various marketed tear retention times using this technique.

(Investigator is an employee of Alcon Research Ltd. Study funded by Alcon Research Ltd.)

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Ocular Ischemic Syndrome

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Background: Ocular ischemic syndrome develops in 5% of patients with internal carotid stenosis. It is usually seen in the elderly and is associated with diabetes, hypertension, stroke, and, less commonly, giant cell arthritis. Symptoms include decreased vision, ocular pain, and amaurosis fugax. Ocular signs include midperiphery dot/blot hemorrhages, dilated but nontortuous blood vessels, neovascularization of the iris, the disc, and elsewhere.
Case Report: A 56-year-old man presented to our emergency service with a painful swollen hyperemic left eye. He developed the symptoms while hospitalized for a stroke 2 weeks before. His ocular history was remarkable for PRP OU for proliferative diabetic retinopathy. His presenting vision was 20/50 O.D. and CF O.S. Biomicroscopy revealed grade III cornea edema and dense rubeosis iridis O.S. Intraocular pressures were measured to be at 16 mmHg O.D. and 20 mmHg O.S. with Tonopen. Dilated fundoscopy, limited by an uncooperative patient and a difficult view through an inflamed anterior segment, demonstrated background diabetic retinopathy O.D. and diffuse cotton-wool spots O.S. The patient was treated for the signs and symptoms of proliferative diabetic retinopathy with rubeosis irides and corneal edema secondary to presumed anterior-segment ischemia. Topical prednisolone acetate 4 times a day and atropine twice a day O.S. were prescribed, and the patient was promptly referred to retinology. The retinologist confirmed our suspicion but was also able to obtain a more complete view of the fundus. Observing the classic signs of carotid occlusive disease, testing was pursued to rule out the possibility of ocular ischemic syndrome. Carotid duplex imaging confirmed the diagnosis of ocular ischemic syndrome and resulted in the appropriate treatment of his rubeosis and retinopathy with PRP.
Conclusion: Clearly, a patient may have more than one disease. The partially correct diagnosis pertaining to the anterior segment inflammation allowed us to impart proper topical therapy, permitting the eye to partially recover, creating an environment more conducive to retinal evaluation. Our prompt referral permitted the gathering of additional data uncovering the actual underlying cause. Here, we present a case in which circumstantial evidence and the disease process itself obscured our ability to gather complete data leading to the appropriate but incomplete treatment of the patient's condition. We review ocular ischemic syndrome, its ocular and systemic findings, differential diagnosis, workup, and appropriate treatments.

Poster 40

SD OCT Imaging of the IS/OS Junction in a Wide Array of Disorders of the Outer Retina

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Background: The SD OCT affords double the resolution as the traditional TD OCT and routinely tests more than 20 times as many sections. Recent utilization of the SD OCT has demonstrated that the photoreceptor integrity line can