

2009 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

GL

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

- Paper
 X Poster
 FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee'

Scientific Section Descriptions (two-letter code):

- (BE) OCULAR BIOENGINEERING
- (CO) CORNEA AND EXTERNAL DISEASE
- (CA) CATARACT
- (EF) ELECTROPHYSIOLOGY
- (EP) EPIDEMIOLOGY
- (EX) EXPERIMENTAL SURGERY
- (GL) GLAUCOMA
- (LA) LABORATORY
- (LS) LACRIMAL SYSTEM
- (LV) LOW VISION
- (NO) NEURO-OPHTHALMOLOGY
- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
- (PH) PHARMACOLOGY
- (RE) RETINA AND VITREOUS
- (RS) REFRACTIVE SURGERY
- (RX) REFRACTION-CONTACT LENSES
- (ST) STRABISMUS
- (TR) TRAUMA
- (TU) TUMORS AND PATHOLOGY
- (UV) UVEITIS
- (US) OCULAR ULTRASOUND

Deadline: Oct 12, 2009

FORMAT:

Abstract should contain:

Title
Author, Co-authors (maximum 6),
Purpose, Methods, Results,
Conclusion.

Poster guidelines:

ARVO Abstract Book (1.10 x 1.70m)

115. FIRST (PRESENTING) AUTHOR (REQUIRED):

Must be the author listed first in abstract body.

(X) R1 () R2 () R3 () PIBIC
() PG0 () PG1 () Fellow () Technician

Last Name: Herrerias

First Name: Bruno

Middle: Torres

Service (Sector): Glaucoma Sector

CFP Number: 1303/06

5. ABSTRACT (REQUIRED):

Corneal hysteresis evaluation in patients with Fuchs endothelial dystrophy

Herrerias, B.T. ; Modolo, R.P. ; Doi, L. ; Paranhos Jr, A

Purpose: To evaluate the difference in IOP (intraocular pressure) measured with Goldmann tonometer and the ORA (Ocular response analyser) in patients with Fuchs' dystrophy compared to normal subjects and to correlate this difference with the corneal hysteresis.

Methods: Sample characteristics:

Inclusion criteria:

Patients with Fuchs' endothelial dystrophy diagnosed by biomicroscopic examination by slit lamp.

Corneal epithelium intact.

Age above 45 years of both sexes

Exclusion criteria:

Patients undergoing eye surgery provided for three months before the start of the study.

Patients using topical steroids or oral.

Patients using chronic topical medications other than artificial tears.

Patients with psychiatric disorders that require hospitalization.

Methodology: We evaluated 8 patients with Fuchs' syndrome and 34 normal subjects. One randomly selected eye per patient was used for calculation. Three measurements were performed with ORA tonometer and then three with Goldmann tonometer (the average of the three was used for calculation). We also collected data corneal hysteresis (with ORA) and pachymetry. The difference between the tonometry, corneal thickness and hysteresis in the two groups was assessed by the T test for independent variables and simple linear regression and the delta between the measurement of Goldmann and ORA as dependent variables and hysteresis and corneal thickness as independent variables in separate models .

Results: Statistically significant difference between groups for all items except for the measurement of Goldmann were found. There was influence of hysteresis on the difference between ORA and Goldmann (PIOcc) in the group with Fuchs: $R2 = 0.126$ ($p = 0.04$) which also occurred with the control group: 0.2905 ($p < 0.001$). This did not occur for corneal thickness and the difference between the tonometers for the two groups ($P > 0.05$).

Conclusion: There were significant differences between the measures of pressure in patients with Fuchs and in the control patients as measured by ORA, but this did not occur to the Goldmann. These differences correlated with measured values of hysteresis. Our results suggest that there is a significant underestimation of measurement of IOP in patients with Fuchs when it is performed with the Goldmann tonometer.

Keywords: Glaucoma, Intra-ocular pressure, corneal hysteresis