

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

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): **CO**

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

- Paper  
 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'

*Patrícia Z. Zacharias Serapicos*

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 13, 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)

86. FIRST (PRESENTING) AUTHOR (REQUIRED):  
Must be the author listed first in abstract body.

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

Last Name: Serapicos  
 First Name: Patrícia  
 Middle: Cabral Zacharias

Service (Sector): Cornea and External Disease

CEP Number: 1970/07

5. ABSTRACT (REQUIRED):

**COLLAGEN CROSSLINKING WITH RIBOFLAVIN AND ULTRAVIOLET-A LIGHT IN PROGRESSIVE MILD AND MODERATE KERATOCONUS – ONE YEAR FOLLOW UP.**

P.C.Z.Serapicos, K. M. Bottós, M. Kurauchi, V. Sakai, P. Schor, W. Chamon, E. Mori, L. Barbosa, D. Freitas.

Purpose: To assess the effectiveness of collagen cross linking (CXL) in reducing progression of mild and moderate progressive keratoconus and to prove the one-year effect of this procedure. Methods: Prospective longitudinal randomized case-control study (Clinical Trial) including progressive keratoconus cases. Progression was based on increase in the cone keratometry values of - 0,75 D or alteration of - 0,75 D in the spherical equivalent in a period of at least six months. All patients were between 15 and 40 year old, were randomized and allocated in the treated or the control groups. Complete exam before and after the procedure included best corrected visual acuity (BCVA), refraction, IOP, fundoscopy, imaging exams such as corneal computerized topographic, pentacan<sup>TM</sup>, ultrasound pachymetry, esthesiometry, endothelial cell count, HRT II system confocal microscopy and optic coherence tomography (Stratus OCT). All those exams were repeated 1, 3, 6 and 12 months after the procedure, except the OCT, that was performed at baseline and in 6 months. The CXL was performed as follows: after topical anesthesia, the epithelial tissue was removed in a 8.0mm diameter area of the central cornea, the 0,1% riboflavin solution was applied every 2 min, for 30 min followed by cornea irradiation with UVA light with a wavelength of 370 nm and an irradiance of 3 mW/cm<sup>2</sup>, when drops of the riboflavin solution were continuously applied every 5 min. After the CXL, a therapeutic contact lens and antibiotic eye ointment were applied for a week. To quantify the CXL effect, the maximum K value of the apex, maximum and minimum K values in 3,0mm zone topography, topography and pachymetry maps on pentacan, astigmatism, BCVA and the corneal stroma on confocal microscopy were recorded. Statistical evaluation is performed by analysis of variance (ANOVA). Results: We have 32 patients included, 15 treated and 5 randomized as controls. Mean baseline simulated keratometry flattest and steepest meridians and apical were respectively 45,37; 48,68 and 52,33, in the treated group. The majority of the treated patients had slight increase in the keratometry values in the one-month follow up, except one patient that had an increase of 3D in the K maximum and impairment on pentacan topographic map. All patients had improvement of keratometry values, astigmatism and BCVA after the third month, mainly at sixth month. The patient with a longer follow up had improvement of the BCVA, the astigmatism and stabilization of the keratometry 1 year after the CXL. Conclusion: CXL might be a good procedure to stop keratoconus progression, but a long-term follow up is necessary.

Keywords: Crosslinking, Keratoconus, Cornea Degeneration