

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

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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'

Elissandro M. S. Lindoso

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
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- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
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- (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)

11. FIRST (PRESENTING) AUTHOR (REQUIRED):

Must be the author listed first in abstract body.

- () R1 () R2 () R3 () PIBIC
- () PGO (x) PG1 () Fellow () Technician

Last Name: Lindoso

First Name: Elissandro

Middle: Marcio

Service (Sector): CO

CEP Number: 0466/07

ABSTRACT

Title: **COMPARATIVE STUDY OF VISUAL OUTCOMES BETWEEN PENETRATING CORNEAL TRANSPLANT AND INTRALASE® ENABLED KERATOPLASTY**

Author and Co-authors (maximum 6): *Elissandro M S Lindoso; Leon Grupenmacher; Mariana Avila ; Melvin Sarayba; Luciene B Sousa.*

Purpose: To compare the visual acuity and postoperative recovery between two groups of patients with keratoconus. One group underwent a traditional, mechanical vacuum trephine procedure while the second group had a 60 kHz femtosecond laser enabled penetrating keratoplasty with a mushroom shaped graft.

Methods: This is a prospective, randomized trial of 60 patients (60 eyes) with keratoconus. The patients were randomized into two treatment groups: Group 1 - penetrating keratoplasty with femtosecond laser shaped incisions (Intralase Enabled Keratoplasty [IEK]) (n=30); Group 2 - penetrating keratoplasty with vacuum trephine [Manual] (n=30). Exclusion criteria included associated ocular pathology that would limit potential visual acuity to less than 20/40. Outcome measures included best spectacle corrected visual acuity (BSCVA), manifest refraction, biomicroscopy exam, intraocular pressure, pachymetry and endothelial cell density (ECD).

Results: There were 30 manual and 30 IEK eyes available for review at 12 months of postoperative follow-up. The IEK group had an average best spectacle corrected visual acuity (BSCVA) of 0.14(Log Mar). The manual group had an average BSCVA of 0.27(Log Mar) (p< 0,001). Mean ECD was 2037 +- 293 cells m/mm2 (range, 1512 to 2832 cells m/mm2) in the IEK group and 1987 +- 260 cells m/mm2 (range, 1698 to 2896 cells m/mm2) in the Manual group (p=0.217). Mean pachymetry was 546 (range, 469 to 576) in the IEK group and 551 (range, 486 to 604) in the Manual group (p=0.510). There were no statistically significant differences between the two groups in refraction components: Spherical refraction (p = 0.215), cylindrical negative refraction (p = 0.645) or the axis of cylinder (p = 0.320).

Two patients from the manual group had intra-ocular hypertension and used topical beta blocker (Timolol) for one month without complications. Four patients (13%) from Manual group and one patient (3%) from IEK group had endothelial graft rejection reaction (p=0.353).

Conclusion: These preliminary results show that femtosecond laser enabled penetrating keratoplasty (PK) with mushroom pattern is another possibility for keratoconus patients with better 12-month BSCVA than the standard PK.

Keywords: corneal transplant; keratoconus; Intralase; Femtosecond laser; Vacuum trephine.