

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.

CO

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'

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)

84. FIRST (PRESENTING) AUTHOR (REQUIRED):

Must be the author listed first in abstract body.

- () R1 () R2 () R3 () PIBIC
 () PG0 () PG1 (x) Fellow () Technician

Last Name: RICARDO
 First Name: JOSÉ
 Middle: REINALDO DA SILVA

Service (Sector): Córnea (CO)

CEP Number: 909/08-15157

5. ABSTRACT (REQUIRED):

Title: Transplantation of conjunctival epithelial cells cultured ex-vivo in Patients with Total Limbal Stem Cell Deficiency (TLSCD)

Authors: José Reinaldo da Silva Ricardo, Telma Pereira Barreiro, Priscila Cristovam Cardoso, Jason Nadai de Barros, Myrna Serapião dos Santos, José Alvaro Pereira Gomes

Purpose: To report the clinical results of transplantation of conjunctival epithelial cells cultured ex vivo in patients with total limbal stem cell deficiency (TLSCD).

Design: Prospective, noncomparative, interventional case series
Patients and Methods: Twelve eyes of 10 patients with TLSCD arising for Steven-Johnson syndrome (2), chemical injury (4), multiple surgery (2), sclerocornea (3) and polyglandular autoimmune syndrome (1). Autologous conjunctival epithelial cells were cultured in amniotic membrane. Tissue was transplanted to the recipient eye after superficial keratectomy. Impression cytology and confocal microscopy were performed 6 months after surgery with clinical follow-up to 6 months. Success was defined as an improvement in the defined clinical parameters of TLSCD, an improvement in visual acuity, the restoration of a more normal corneal phenotype on impression cytology, and the appearance of regular hexagonal basal cells on corneal confocal microscopy.

Results: The successful rate using this technique was 83,3%. Visual acuity improved in 7 of 12 eyes (58.3 %) to the range of hand movements to 20/40.

Conclusion: These data demonstrate that it is possible to culture conjunctival epithelial stem cells ex vivo in compliance with good manufacturing regulations. A set of objective outcome measures that confirm the efficiency of this technique in treating patients with TLSCD is described. This suggests that the transplantation of cultivated conjunctival epithelial cells sheets holds promise as a novel surgical treatment for severe ocular surface disorders.

Keywords: cornea, stem cells, conjunctiva, total limbar deficiency