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:

X 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"

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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)

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

( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
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Service (Sector): Cornea

CEP Number: 0677/07

Human Conjuntival Epithelial Cells cultivated *ex vivo* on Amniotic Membrane

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Introduction: The conjunctiva plays an important role in the ocular surface physiology: it represents a physical barrier against microorganisms and prevents liquid loss. Besides, it has immune cells, special cicatricial mechanisms and produces mucins, an important component of the tear film. There are different ocular surface diseases that affect the conjunctiva, as pterygium, tumors and symblepharon. Classically, conjunctival auto or allografts have been performed to treat many of these diseases. However, there are some limitations regarding the availability of conjunctival donor tissue.
Purpose: To establish human conjunctival epithelial cell culture on amniotic membrane.
Methods: A conjunctival fragment of approximately 2x4mm was harvested from different living donors who underwent cataract or pterygium surgery. All donors signed a inform consent prior to the procedure. The conjunctival fragment was sent to the laboratory. Under sterile conditions, the tissue was divided into an anterior and a posterior portion. The anterior portion was divided into two fragments. One was cultivated on denuded human amniotic membrane, and the other was placed on a culture plate. The cultures were incubated with a modified HEM media at 37ºC and 5% CO2. The culture medium was changed 3 times a week for 3 weeks. After this period, the cultures were evaluated for 3 days and fixed for immunocytochemical analysis for epithelial cytokeratins (K3, K19, MUC5) and proliferation markers (Ki-67, p63). We also performed impression cytology, electron microscopy and confocal microscopy analysis.
Results: Conjunctival epithelial cells (n=6) expanded successfully either on culture plate or amniotic membrane. Impression cytology demonstrated the presence of compact conjunctival epithelium and goblet cells. Immunocytochemical analysis showed positivity for K3, K19, MUC5 and 20 to 30 % positivity for Ki-67 and p63. Our cultures on the amniotic membrane got confluence in three weeks.
Conclusions: Our results are compatible with Meller & Tseng study, demonstrating that it is possible to cultivate human conjunctival epithelial and goblet cells *ex vivo* on human amniotic membrane. This method may represent an important step to be used in the treatment of many ocular surface diseases.