FINAL PROGRAM and ABSTRACTS

3rd JOINT INTERNATIONAL CONGRESS

CONGRESS CHAIRMEN
Vincenzo Sarnicola, MD - Paolo Vinciguerra, MD
Corneal wound healing is a complex dynamic process in which cells, extracellular matrix, tears and growth factors interact to restore tissue integrity while maintaining clarity and hydration. Many mechanisms are involved in the corneal wound healing process, including adhesion, migration and proliferation of corneal epithelial cells. These three phases are characterized by an intense mitotic cellular activity and need high energy. The aim of our work is to assess the possible role of enzymes Q10 on the the wound healing response in laboratory experiments and if it may be of help in controlling wound healing in corneas that have suffered epithelial damage or have undergone oxidative stress.

**FELICE MENICACCI**

**CORRECTION OF SECONDARY AMETROPIA POST PENETRATING KERATOPLASTY AND DEEP ANTERIOR LAMELLAR KERATOPLASTY**

Authors: F. Menicacci, F. Berni, E. Menicacci, E. Sarnicola

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**PURPOSE:** Astigmatism and myopic ametropia is still a severe problem in 8% to 20% of the eyes of patients with keratoconus. The purpose of this paper is to evaluate the efficacy and safety of femtosecond laser-assisted incision for the correction of secondary ametropia induced by previous corneal surgery (PKP and DALK) in cases with anisometropia.

**METHODS:** Patients with secondary ametropia (anisometropia and difficult correction through lenses or spectacles) following PKP and DALK have undergone femtosecond laser-assisted incision. Procedure has been performed using AMO's IntraLase FS and for the refractive deflector laser Bausch & Lomb 217 Zyoptix Z 100 Hz e laser VISX S4-IR.

**RESULTS:** The results we achieved document and confirm the validity of the procedure for the correction of such post-operative refractive errors. We obtained a clear improvement of both the anisometropia and visual acuity.

**CONCLUSIONS:** Refractive surgery can improve the final visual outcome of patients who have undergone successful corneal transplantation. Among different techniques used for residual refractive errors (astigmatism, myopia or hyperopia) we believe that femtosecond laser-assisted incision in selected cases, should be considered a valid technique to be used.

**FELICE MENICACCI**

**CORRECTION OF REFRACTIVE DEFECTS WITH FEMTOLASIK – SBK : STABILITY, EFFICACY AND SAFETY**

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**PURPOSE:** To evaluate the efficacy of femtosecond laser-assisted incision for the correction of all refractive defects: myopia, astigmatism and hyperopia.

**METHODS:** Patients with myopia, astigmatism and hyperopia underwent femtosecond laser-assisted incision. The procedure has been performed using AMO's IntraLase FS and for the refractive deflector laser Bausch & Lomb 217 Zyoptix Z 100 Hz e laser VISX S4-IR.

**RESULTS:** Our results document the reliability, the stability, the efficacy and the safety of the femtosecond laser-assisted incision technique for the correction of these defects performing a 90 microns flap. This type of flap saves tissue and Bowman's membrane, reduces the effect on the corneal stability, and reduces the "dry eye syndrome" due to involvement of nerve plexus stromal and subepithelial, and furthermore reduces the risk for corneal ectasia.

**CONCLUSIONS:** Among different techniques used for residual refractive errors the femtosecond laser-assisted incision has been recognized a valid alternative to the PRK and the LASIK with microkeratome.

**CHIARA MILLACCI**

**DALK FOR KERATOGLOBUS: MANAGEMENT OF DISPARITY BETWEEN DONOR-RECIPIENT**

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**PURPOSE:** To report a preoperative Deep Anterior Lamellar Keratoplasty (pDALK) approach in keratoconus managing donor-recipient curvature disparity.

**METHODS:** A layer by layer stromectomy to reach a pDALK plane was performed in 3 eyes of 2 patients with extreme keratoconus. Average of preoperative corneal thickness was 220 microns. Diameter of trephination was 11mm. Disparity of curvature between donor-recipient was managed performing a full thickness circular cut of the recipient bed. Removed tissue was stored. Descemet and endothelium were pulled out from donor graft and the stored tissue (recipient's endothelium) was attached to the donor button using fibrin glue. Same size (11 mm) donor tissue was sutured with 18 Nylon 10-0 interrupted stitches. Air bubble in the anterior chamber was kept at the end of the surgery.

**RESULTS:** Rupture of recipient bed occurred during surgery in one case. In all cases the recipient's endothelium glued to the donor button resulted attached at first day postoperative. In one eye after one week postoperative detachment of recipient's endothelium was recorded. A new air bubble into the anterior chamber was used to fix this complication. Corneal and ocular surface were stable until the last follow-up. No other problems of adherence between donor-recipient were recorded. 30% of endothelial cell loss was present at 6 months follow-up.

**CONCLUSIONS:** Full thickness complete circular cut of the recipient bed seems to be a good approach to solve disparity problems between donor and recipient bed in DALK for keratoconus.

**CHIARA MILLACCI**

**AMNIOTIC MEMBRANE TRANSPLANTATION IN TRABECULECTOMY**

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**PURPOSE:** To determine the efficacy and safety of the use of