



PRESENTAZIONE DEL CONGRESSO

Quest'anno abbiamo voluto dare un tema alla XIII edizione del congresso internazionale della SICSSO, intitolandola "Let's discuss clinical cases!". Accanto alle letture magistrali assegnate ad alcuni tra i principali opinion leader del nostro settore, abbiamo voluto dedicare ampio spazio alla presentazione e discussione di casi clinici riguardanti problematiche diagnostiche e/o terapeutiche particolari: l'obiettivo è di coinvolgere l'audience in sala offrendo proposte di risoluzione a problematiche comuni nella pratica quotidiana di un oculista. In questa logica abbiamo voluto prevedere anche quest'anno la **visita in diretta di pazienti**, rinnovando una proposta unica e tradizionale della SICSSO: sabato mattina i vari componenti della faculty visiteranno il paziente utilizzando una lampada a fessura dotata di telecamera e potranno interrogare direttamente il paziente, esprimere le proprie ipotesi diagnostico-terapeutiche e confrontarle con l'opinione dell'audience.

Un'altra novità di quest'anno è la collaborazione con il **Moorfields Eye Hospital di Londra**, il rinomato ospedale oftalmico tra i più grandi d'Europa, che ha messo a disposizione della SICSSO una observership di 1 o 2 settimane. Offriremo quest'opportunità, supportata da un contributo per spese di viaggio e soggiorno di 1.000 euro, al vincitore della miglior presentazione delle sessioni "Innovations", purché abbia meno di 40 anni.

Come ogni anno, la SICSSO premierà due personalità che si sono distinte a livello mondiale in ambito corneale e della superficie oculare: avremo quindi l'onore di assegnare le **Medal Lecture 2014** al Dr. R. Fogla e al Dr. D. Ponzin.

Benvenuti a Paestum,

Vincenzo Sarnicola

GENERAL INFORMATION

Organizing Secretariat & Official Housing Bureau

AIM Group International - AIM Congress srl (Via G. Ripamonti, 129 - 20141 Milan, Italy)

Ph.: +39 02 56601.1 - Fax: +39 02 70048578

E-mail: sicso2014@aimgroup.eu

Opening times

Thursday, 26 June	11.00-19.00
Friday, 27 June	07.30-19.00
Saturday, 28 June	08.00-13.30

Participation fees (VAT 22% included)

<i>Ophthalmologist</i>	€ 366,00
<i>Orthoptist</i>	€ 61,00
<i>PhD Student</i>	€ 100,00
<i>Students</i>	€ 61,00
Congress lunch	€ 25,00

Congress venue and location

Hotel Ariston (Via Laura, 13 - 84047 Capaccio/Paestum - Ph. +39 0828 851333/34)

Badges

All participants must wear their personal badge to have access to the congress:

Faculty - red **Delegates** - transparent **Company staff** - blue

Food&beverage

Lunches and coffee breaks are not included in the congress fee. A bar will be available in the exhibition area. Lunch ticket on 27 June can be bought at the Registration Desk according to availability (Euro 25,00). The satellite lunch symposium in Sala Argiva is open to 100 participants (first come, first served).

Certificate of attendance will be handed out to all registered participants on request at the end of the congress.

Insurance

Delegates are advised to take out travel insurance to cover medical expenses, accidents, loss etc. The Organizers will not accept any liability for damage, theft or loss of any Participant's property in any circumstances.

Photos

Participants are informed that an official congress photographer will take pictures during the congress and the social events. Those images will be used only for purposes linked to the event promotion.

Official language

The official language of the congress is Italian. Simultaneous translation English-Italian will be provided in the Auditorium (Saturno Room).

INFORMAZIONI GENERALI

Segreteria Organizzativa e Prenotazioni alberghiere

AIM Group International - AIM Congress srl (Via G. Ripamonti, 129 - 20141 Milano)

Tel.: 02 56601.1 - Fax: 02 70048578

E-mail: sicso2014@aimgroup.eu

Orari di apertura

Giovedì, 26 giugno	11.00-19.00
Venerdì, 27 giugno	07.30-19.00
Sabato, 28 giugno	08.00-13.30

Quote di partecipazione (iva inclusa)

Oculisti	€ 366,00
Ortottisti	€ 61,00
Specializzandi	€ 100,00
Studenti	€ 61,00
Colazione di lavoro	€ 25,00

Sede del congresso

Hotel Ariston (Via Laura, 13 - 84047 Capaccio/Paestum - Tel. 0828 851333/34)

Badge

Tutti i partecipanti devono indossare il proprio badge nominativo per accedere alle varie aree del congresso e alle sessioni scientifiche:

Faculty - rosso **Delegati** - trasparente **Aziende** - blu

Ristorazione congressuale

Pranzi e coffee break non sono inclusi nella quota d'iscrizione. Sarà disponibile un bar a pagamento diretto nell'area espositiva. Il buffet lunch del venerdì 27 giugno potrà essere prenotato in base alle disponibilità del momento (Euro 25,00). Al "satellite lunch symposium" in Sala Argiva possono accedere i primi 100 partecipanti che ne faranno richiesta.

Il Certificato di partecipazione sarà consegnato su richiesta al termine del congresso.

Assicurazione

Gli organizzatori non si assumono la responsabilità per danni e/o perdite subiti dai partecipanti o dagli accompagnatori.

Riprese fotografiche

Si avvisano i partecipanti che il congresso prevede la presenza di un fotografo ufficiale: le immagini riprese saranno unicamente utilizzate per scopi redazionali e promozionali legati al congresso.

La lingua ufficiale del congresso è l'italiano. Il servizio di traduzione simultanea inglese-italiano è previsto in Auditorium (Sala Saturno).

Slide Center - Giove Office


All presentations are centralised: speakers are invited to drop here their presentations not later than 2 hours before "showtime". Then, they will have their presentations ready in their session room. Technicians are available during the same opening times of the Organizing Secretariat

Centro slide - Ufficio Giove

La raccolta delle presentazioni è centralizzata. I relatori dovranno consegnare le proprie slide con almeno 2 ore di anticipo rispetto all'orario di presentazione. I tecnici saranno disponibili negli stessi orari della Segreteria Organizzativa

WET LABs




 The organization of wet labs has always registered a great success in the past editions of the SICSSO congress: that is why we are again offering young surgeons the opportunity to train using corneal tissues made available from eye banks.

Wet labs have a duration of 1 hour; 9-10 participants are allowed per session, as this is the availability of microscopes. Teacher's surgery will be shown through a camera set on his microscope.

Participation cost (to be added to the congress registration): € 121,00 VAT included.



 Dopo i successi riscontrati negli anni precedenti, anche questo anno la S.I.C.S.S.O. propone i wet lab avvalendosi dei tessuti di scarto provenienti dalle banche degli occhi. La possibilità di esercitarsi su tessuti di scarto delle banche consente un apprendimento più reale delle nuove tecniche della chirurgia della cornea e della superficie oculare.

I corsi, della durata di un'ora, prevedono 9 o 10 partecipanti, che utilizzeranno microscopi da tavolo. Il docente effettuerà la chirurgia con un microscopio provvisto di telecamera.

Costo di partecipazione (da aggiungere alla quota d'iscrizione al congresso): € 121,00 IVA inclusa

PROGRAM

Thursday, 26 June

- ◆ DALK - Teacher: G. Marchini - Language: Italian (hrs 17.00-18.00)
- ◆ DALK - Teacher: V. Sarnicola - Language: Italian (hrs 18.00-19.00)


Friday, 27 June

- ◆ EK - Teacher: J. Güell - Language: English (hrs 9.30-10.30)
- ◆ Amniotic Membrane - Teacher: M. Nubile - Language: Italian (hrs 11.45-12.30)
- ◆ Emergency in ophthalmology: corneal injuries. Teacher: J. Güell - Language: Italian (hrs 13.00-14.00) (organized by Sooft Italia, by-invitation only)
- ◆ DSAEK - Teacher: V. Maurino - Language: Italian (hrs 14.00-15.00)
- ◆ DMEK - Teacher: R. Fogla - Language: English (hrs 18.00-19.00)

CONGRESS PARTY

Friday, 27 June




 On the bay of Paestum, in the most exclusive heart of the Campania region and at a site of exceptional natural and artistic beauty... here is the Hotel Ariston, where not only the scientific sessions of SICSSO 2014 but the traditional Congress Party as well will be hosted.

Join us for a nice informal gathering, among friends wishing to share the pleasure for nice music and good local cuisine.

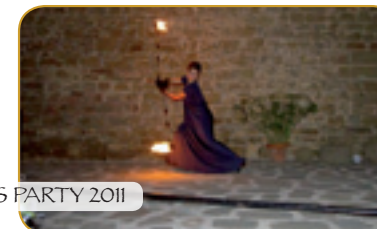
Participation cost: € 50,00 (VAT included)



 Sulla baia di Paestum, nel cuore più esclusivo della Campania, in un luogo di bellezza artistica e naturale: ecco l'hotel Ariston, che ospiterà non solo le sessioni scientifiche di SICSSO 2014, ma anche il tradizionale Congress Party, una serata informale, tra amici che condividono il piacere per la buona musica e le prelibatezze gastronomiche locali...

Non mancate!

Costo di partecipazione: € 50,00 (IVA inclusa).



CONGRESS PARTY 2011



VENERDÌ 27 GIUGNO

SALA ARGIVA



Partecipazione gratuita - Posti limitati - Iscrizione obbligatoria

Presidente della sessione: *Dott. A. Greco*

- 15.00 **Ruolo e responsabilità**
D. Palagi (Siena)
- 15.15 **Sicurezza in sala operatoria**
C. Notari (Salerno)
- 15.30 **Flusso dei ferri**
S. Maffei, Oss. (Siena)
- 15.45 **Sterilizzazione strumenti cavi**
G. Rocchi (Grosseto)
- 16.00 **Processi di sterilizzazione**
M. Capone (Salerno)
- 16.15 **Tracciabilità della sterilizzazione**
A. Carnevale (Grosseto)
- 16.30 **Nursing perioperatorio: dal pionierismo alla robotizzazione**
S. Guariglia (Salerno)
- 16.45 **Responsabilità infermieristica**
N. De Canio (Polla, SA)
- 17.00 **Ruolo dell’infermiere nei trapianti di cornea**
V. Scognamiglio (Grosseto)
- 17.15 **Problematiche della chirurgia del segmento anteriore**
L. Plaitano (Nocera Inferiore, SA)
- 17.30 **Problematiche della chirurgia del segmento posteriore**
M. De Prisco (Nocera Inferiore, SA)
- 17.45 **Discussione**



THURSDAY, 26 JUNE

AUDITORIUM - ROOM SATURNO

- 12.45 **OPENING OF THE CONGRESS**
- 13.00 -13.55 **INNOVATIONS “REFRACTIVE SURGERY”**
MODERATORS: *F. Montrone (Bari, Italy), V. Napoli (Salerno, Italy)*
- 13.00* **The score system for the pre-operative screening of refractive surgery patients**
A. Saad (France), S. Yoo (USA), F. Cabot (USA), G. Kymionis (Greece), A.P. Canto (USA), D. Gatinel (France)
- 13.07 **Multifocal presbyopia correction by Presbytec laser treatment with 36 months experience combined with CMF therapy**
G. Citroni (Brescia, Italy)
- 13.14 **MINI WELL, the first progressive multifocal IOL**
C. Carbonara (Rome, Italy)
- 13.21 **Laser blended vision (Presbyond) - A new procedure to correct presbyopia**
K. Ditzen (Germany)
- 13.28* **ReLEx, new techniques in refractive surgery: our experience**
C. Cagini, F. Piccinelli, F. Giusquiani, M. Messina, (Perugia, Italy)
- 13.35 **Biometry accuracy and visual outcomes after the implantation of a refractive multifocal IOL in femtosecond-laser assisted and manual cataract surgery**
F. Sabatino, F. Aiello, V. Maurino (UK)
- 13.42 **Prospective randomized controlled trial comparing 2 diffractive multifocal IOLs**
V. Maurino (UK)
- 13.49 **Discussion**

* under consideration for the Best Paper Award 2014

13.55-15.05 INNOVATIONS "MISCELLANEOUS"

MODERATORS: G. Cusati (Benevento, Italy), A. Mocellin (Lecce, Italy), E. Motolese (Siena, Italy)

- 13.55* **The ocular surface in medically controlled glaucoma: an in vivo confocal study**
E. Villani, E. Garoli, V. Canton, F. Magnani, P. Nucci, R. Ratiglia (Milan, Italy)
- 14.02 **Endoscopic cyclophotocoagulation in refractory glaucoma after osteo-odonto-keratoprosthesis in Stevens-Johnson syndrome**
M. Forlini, A. Bratu, P. Rossini, C. Forlini (Ravenna, Italy)
- 14.09* **In vivo confocal microscopy of conjunctiva in preservative-free Timolol 0.1% gel formulation therapy for glaucoma**
S. Bagaglia¹, P. Frezzotti¹, P. Fogagnolo², I. Motolese¹, M. Iester³, P. Mittica¹, C. Menicacci¹, L. Rossetti², E. Motolese¹ (¹Siena, Italy; ²Milan, Italy; ³Genoa, Italy)
- 14.16 **Corneal status after vitrectomy**
G.M. Tosi, D. Marigliani, T. Bacci (Siena, Italy)
- 14.23 **Reverse flow one port pars plana vitrectomy technique: effect of fluidics through the anterior chamber infusion on the corneal endothelium**
M. Forlini, C. Forlini, A. Bratu, P. Rossini (Ravenna, Italy)
- 14.30 **Corneal graft patch to repair Baerveldt valve silicone tube and scleral buckling extrusions**
E. Sarnicola¹, C. Sarnicola¹, V. Sarnicola² (¹Siena, Italy; ²Grosseto, Italy)
- 14.37 **Effect of topical mannitol 10% solution in patients with corneal edema after cataract surgery**
G. Martone, P. Pichierrri, P. Massimo, A. Tarantello, V. Corbo, C. Traversi (Siena, Italy)
- 14.44* **DMEK: Learning curve and 18 months results of a French series**
A. Saad, D. Gatinel (France)
- 14.51 Discussion

15.05-16.00 HSV INFECTIONS
(with Audience response system-ARS)



PRESIDENT: L. Cerulli (Rome, Italy)
PANEL: G. Cennamo (Naples, Italy), V. Napoli (Salerno, Italy), C. Traversi (Siena, Italy)

- 15.05 **Keynote lecture: HSV infection: literature overview**
G. Marchini (Verona, Italy)
- 15.20 **Case 1 and ARS** R. Mencucci (Florence, Italy)
- 15.28 **Case 2 and ARS** M. Nubile (Chieti-Pescara, Italy)
- 15.36 **Case 3 and ARS** V. Sarnicola (Grosseto, Italy)
- 15.44 Discussion

16.00-17.00 DRY EYE, OCULAR SURFACE and OCULOPLASTY

PRESIDENT: G. Bonavolontà (Naples, Italy)
PANEL: R. Fogla (India), F. Garziona (Rome, Italy), R. Mencucci (Florence, Italy)

- 16.00 **Keynote lecture: Dry eye: literature overview**
G. Massaro-Giordano (USA)
- 16.12 **Keynote lecture: Oculoplasty and ocular surface**
E. Polito (Siena, Italy)
- 16.24 **Keynote lecture: Ocular surface tumors: from the literature to the clinic approach**
K. Colby (USA)
- 16.36 **Keynote lecture: Ocular surface technology**
J. Aquavella (USA)
- 16.48 Discussion

17.00-19.00 INNOVATIONS "OCULAR SURFACE and INFECTIONS"

MODERATORS: P. De Rosa (Naples, Italy), C. Forlini (Ravenna, Italy),
G. Santoni (Terni, Italy)

17.00* **Recurrent corneal perforation secondary to rheumatoid arthritis related dry eye**

A. Alqahtani, H. Alfaleh (Saudi Arabia)

17.07* **Dry eye response to topical steroids: an in vivo confocal study**

E. Villani, E. Garoli, V. Canton, V. Termine, R. Ratiglia, P. Nucci (Milan, Italy)

17.14* **Quantitative characterization of ocular damage in Sjogren's Syndrome patients with Fractal Analysis**

M.E. Latronico, R. Franceschini, L. Cantarini, G. Bianciardi, C. Traversi (Siena, Italy)

17.21* **Use of methafilicon contact lens for management of severe keratoconjunctivitis sicca secondary to chronic graft-versus-host-disease**

S. Pezzotta, E. Antoniazzi, C. Delfante, P.E. Bianchi (Pavia, Italy)

17.28 **The first report of Fabry disease in Salerno province: diagnostic role and evolution of the ocular manifestations**

S. Troisi, V. Turco, M. Tenuta, C. Rocco, S. Cirillo (Salerno, Italy)

17.35 **Corneal graft application in reconstruction of eyeball after removal of anterior ocular neoformations**

L. Mosca, L. Guccione, L. Mosca, M. Toro, A. Rosati, R. Secondi, M. Blasi, E. Balestrazzi (Rome, Italy)

17.42* **Molecular markers and confocal microscopy outcomes in corneal surface regeneration by autologous cultures of limbal cells graft**

M. Passilongo¹, E. Pedrotti¹, A. Fasolo², G. Parisi¹, R. Mastropasqua¹, S. Ficial¹, P. Di Sarro¹, G. Marchini¹ (¹Verona, Italy; ²Zelarino VE, Italy)

17.49 **Pterigium surgery and scleral contact lens**

A. Montericchio (Trapani, Italy)

17.56* **Central toxic keratopathy following uneventful LASIK**

F. Aiello^{1,2}, G. Jutley¹, D. Robaei¹, V. Maurino¹ (¹UK; ²Rome, Italy)

18.03 **PRK and contact lens**

A. Montericchio (Trapani, Italy)

18.10 **Ocular bandage with therapeutic LAC after cataract surgery with or without femtosecond-laser**

C. Savaresi, G. Mandelli, S. Toma (Milan, Italy)

18.17 **Raman microspectroscopy analysis in the treatment of acanthamoeba keratitis**

G. Cennamo¹, D. Di Cave², L. Cerulli², A. Sasso¹ (¹Naples, Italy; ²Rome, Italy)

18.24 **Unusual case of acanthamoeba and aspergillus keratitis**

L. Capasso, A. Tortori, L. Gifuni, E. Picciotti, A. Tortori (Naples, Italy)

18.31* **Impact of contact lens wear on post-lens tear fluid antimicrobial activity**

S. Fleiszig, Y. Wu, L. Zhu, D. Evans (USA)
(Presenter: M. Metruccio, USA)

18.38 **Role of dendritic cells in corneal epithelial defense against pseudomonas aeruginosa colonization and traversal in vivo**

D. Evans, M. Metruccio, C. Tam, S. Fleiszig (USA)

18.45 Discussion

8.30-9.20 INFECTIONS

(with Audience response system-ARS)

**PRESIDENT:** *L. Mastropasqua (Chieti-Pescara, Italy)***PANEL:** *J. Güell (Spain), V. Sarnicola (Grosseto, Italy), L. Spadea (Rome, Italy)***8.30 Keynote lecture: Microbial keratitis: diagnosis and therapy**
*R. Mencucci (Florence, Italy)***8.42 Case 1 and ARS** *E. Pedrotti (Verona, Italy)***8.50 Case 2 and ARS** *R. Swarup (India)***8.58 Case 3 and ARS** *P. Vinciguerra (Milan, Italy)***9.06 Discussion**

9.20-10.20 KERATOCONUS

(with Audience response system-ARS)

**PRESIDENT:** *E. Cantera (Rome, Italy)***PANEL:** *J. Aquavella (USA), A. Caporossi (Rome, Italy),
G. Caprioglio (Venice, Italy), V. Sarnicola (Grosseto, Italy)***9.20 Keynote lecture: Keratoconus: from literature to the clinic approach**
*M. Belin (USA)***9.35 Case 1 and ARS** *G. Alessio (Bari, Italy)***9.43 Case 2 and ARS** *J. Aquavella (USA)***9.51 Case 3 and ARS** *A. Mularoni (Bologna, Italy)***9.59 Case 4 and ARS** *V. Maurino (UK)***10.07 Discussion****10.20-10.40 BREAK****10.40-11.00 S.I.C.S.S.O. MEDAL LECTURE 1**
Introduction by V. Sarnicola**History and future of DALK surgery**Dr. Rajesh Fogla *DNB, FRCS (Edin), MMed (Ophth)*

Completed MBBS from Gauhati Medical College, Assam, India in 1991 with distinction and gold medal in General Surgery & ENT. Post graduation in Ophthalmology from Sankara Nethralaya, Chennai. Completed Diplomate of National Board (DNB) Ophthalmology in 1997.

Fellowship of Royal College of Surgeons of Edinburgh in 1998.

Master of Medicine (Ophthalmology) from National University of Singapore in 1998.

Completed Fellowship in Cornea and External Diseases from Sankara Nethralaya in 1998. Worked as Consultant at Sankara Nethralaya from 1998 -2005.

Established Eye unit at Apollo Hospitals, Colombo, Sri Lanka in 2002 & worked as a consultant from 2003-2003. During this time, introduced LASIK for the first time in Sri Lanka in 2002.

Senior Consultant, Director Cornea Clinic, at Apollo Hospitals Hyderabad from 2005 to present. Visiting Senior Consultant to Lanka Hospitals from 2006 to present.

Clinical interest in Corneal Disorders, Refractive Surgery, & Ocular Surface Reconstruction.

Awards received

- TLK Rao award for Best Consultant in 1999 at Sankara Nethralaya
- Omprakash Oration medal by Punjab Ophthalmic society in 2006
- L C Dutta Oration medal in 2010
- Gold Medal from Indian Intraocular Implant and Refractive Society 2012

Introduced Endothelial Keratoplasty for first time in India in 2004.

Developed instruments for big bubble deep anterior lamellar keratoplasty, and also for Endothelial Keratoplasty.

Over 100 publications & presentations at both national and international levels. Has contributed chapters in several books.

Reviewer for several journals including Ophthalmology, American Journal of Ophthalmology, Archives of Ophthalmology, Cornea, Journal of Cataract & Refractive Surgery, Indian Journal of Ophthalmology, Ophthalmic Surgery & Lasers. Keen interest in teaching and training, and conducts training courses both at national and international meetings. Fellowship program in Cornea & External Diseases, and Courses on Lamellar Keratoplasty at Apollo Hospitals, Hyderabad, India.

11.00-11.53 **DALK**
(with Audience response system-ARS)



PRESIDENT: J. Güell (Spain)

PANEL: L. Buzzonetti (Rome, Italy), G. Marchini (Verona, Italy),
B. Billi (Rome, Italy)

11.00 **Keynote lecture: DALK new frontiers**
V. Sarnicola (Grosseto, Italy)

11.15 **Case 1 and ARS** F. Menicacci (Siena, Italy)

11.23 **Case 2 and ARS** L. Caretti (Padua, Italy)

11.31 **Case 3 and ARS** R. Fogla (India)

11.39 Discussion

11.53-12.40 **EK**
(with Audience response system-ARS)



PRESIDENT: V. Sarnicola (Grosseto, Italy)

PANEL: G. Gabbriellini (Pisa, Italy), P. Rama (Milan, Italy)

11.53 **Keynote lecture: EK: literature overview**
J. Güell (Spain)

12.08 **Case 1 and ARS** M. Belin (USA)

12.16 **Case 2 and ARS** V. Maurino (UK)

12.24 Discussion

12.40-13.00 **S.I.C.S.S.O. MEDAL LECTURE 2**
Introduction by V. Sarnicola



Eye banking: up to date and future directions

Dr. Diego Ponzin (Mestre VE, Italy)

Diego Ponzin, MD is Director, Medical Director and Corneal Consultant of the Veneto Eye Bank Foundation in Venice, Italy. His clinical fields of interest include the ocular surface and corneal diseases, cornea biology, storage and selection for transplantation.

He obtained his medical degree at the University of Padua, Italy and his post-doctoral diploma in Ophthalmology at the University of Udine, Italy.

He has been Research Associate at the Department of Immunology of the FIDIA Research Laboratories in Padua, and Expert for eye banking of the Consulta Nazionale Trapianti, Rome.

During his career, he received the Fidia Research Award (1991), the Fellowship "Franco Lenzoni" from the Associazione Italiana Donatori Organi (1996), he was honorary Member of the Italian Society for Corneal Transplantation (2000), and obtained the Scientific Research Award from the Italian Society of Ophthalmology in 2005. He also got the 2009 "Best Poster" Award, American Academy of Ophthalmology, the Best paper in session, the 2012 Global Ophthalmology Awards Program from Bayer, and the 2013 Gold Medal from the Italian Society for Corneal transplantation.

Besides his involvement as reviewer of several journals (e.g. the British Journal of Ophthalmology, European Journal of Ophthalmology, Cornea, etc), he is (co-)author of more than 50 full papers in peer-reviewed journals, 10 book chapters and 10 invited reviews.

13.00-14.00 LUNCH BREAK

13.00-14.00 LUNCH SYMPOSIUM (Sala Argiva)
Chirurgia del segmento anteriore. Qualità nella gestione chirurgica e post chirurgica

- **Riconoscere i problemi per migliorare il risultato post operatorio** F. Mazzolani (Milano)
- **Questi problemi quanto sono frequenti? Quali sono le soluzioni?** R. Mencucci (Firenze)

13.00-14.00 WET LAB organizzato da Sooft Italia (su invito)
Emergenze in oculistica

- **Emergenze - la ferita corneale: come intervenire?** J. Güell (Spain)

14.00-15.00 CROSS-LINKING
(with Audience response system-ARS)

PRESIDENT: N. Rosa (Salerno, Italy)

PANEL: M. Belin (USA), S. Savastano (Cassino FR, Italy), C. Mazzotta (Siena, Italy)

14.00 **Keynote lecture: Cross-linking: literature overview**
A. Caporossi (Rome, Italy)

14.13 **Keynote lecture: Cross-linking: future directions**
P. Vinciguerra (Milan, Italy)

14.26 **Case 1 and ARS** G. Gabbriellini (Pisa, Italy)

14.34 **Case 2 and ARS** M. Angeloni (Turin, Italy)

14.42 **Case 3 and ARS** P. Rosetta (Milan, Italy)

14.50 Discussion

15.00-16.00 OCULAR SURFACE
(with Audience response system-ARS)

PRESIDENT: K. Colby (USA)

PANEL: G. Massaro-Giordano (USA), F. Passani (Carrara, Italy), F. Simonelli (Naples, Italy),

15.00 **Keynote lecture: Aniridia: how to make the cornea clear**
P. Rama (Milan, Italy)

15.13 **Case 1 and ARS** R. Swarup (India)

15.21 **Keynote lecture: Surgical ocular surface reconstruction: indications and techniques**
V. Sarnicola (Grosseto, Italy)

15.34 **Case 2 and ARS** P. Rubino (Parma, Italy)

15.42 Discussion

16.00-17.00 FEMTOCATARACT

PRESIDENT: A. Caporossi (Rome, Italy)

PANEL: B. Billi (Rome, Italy), A. Scialdone (Milan, Italy), A. Montericcio (Trapani, Italy)

16.00 **Keynote Lecture: The effective laser spot size and separation of anterior capsulotomy in femtosecond laser cataract surgery**
C. Joo (South Korea)

16.10 **Personal experience with the VICTUS femtosecond laser cataract system**
N. Santacroce (Cosenza, Italy)

16.20 **Personal experience with the LENSAR femtosecond laser cataract system**
L. Mastropasqua (Chieti-Pescara, Italy)

16.30 **Personal experience with the CATALYS femtosecond laser cataract system**
V. Maurino (UK)

16.40 **Personal experience with the LENSX femtosecond laser cataract system**
V. Orfeo (Naples, Italy)

16.50 Discussion

17.00-18.15 INNOVATIONS "KERATOPLASTY and K-PRO"

MODERATORS: V. Rao (Caserta, Italy), A. Magli (Salerno, Italy)

17.00 Long term outcomes of femtosecond laser assisted mushroom configuration keratoplasty for severe keratoconus

V. Maurino¹, S. Fung¹, F. Aiello^{1,2}
(¹UK; ²Rome, Italy)

17.07* Penetrating keratoplasty associated with amniotic membrane implant: perspective case-control study of 30 complex cases

A. Passani¹, C. Posarelli¹, M. Figus¹, M. Nardi¹, F. Passani²
(¹Pisa, Italy; ²Carrara, Italy)

17.14* Femtosecond assisted PK: 5 years follow-up of anvil profile

L. Menabuoni¹, A. Canovetti¹, A. Malandrini¹, I. Lenzetti¹, F. Rossi²,
H. Durkee², R. Pini² (¹Prato, Italy; ²Sesto Fiorentino FI, Italy)

17.21* Outcomes of mushroom keratoplasty with femtolaser in patients with central leukoma

C. Cagini, F. Piccinelli, F. Riccitelli, M. Messina (Perugia, Italy)
Presenter: A. Bartolini (Terni, Italy)

17.28 New technique to get a more reliable bubble during DALK surgery

P. Vinciguerra (Milan, Italy)

17.35* Big-bubble deep anterior lamellar keratoplasty in pediatric patients: femtosecond laser versus mechanical trephine. Two years follow-up

L. Buzzonetti, G. Petrocelli, P. Valente, S. Petroni (Rome, Italy)

17.42 How to get a prolate cornea after DALK surgery

P. Vinciguerra (Milan, Italy)

17.49 Vitreoretinal events in eyes receiving pediatric type I Dohlman (Boston) keratoprosthesis

A. Sangave, R. Ramchandran, J. Aquavella, D. Diloreto, M. Chung (USA)

17.56* Results of femtosecond assisted Boston Type-I keratoprosthesis "one-touch" procedure

L. Menabuoni¹, A. Malandrini¹, A. Canovetti¹, I. Lenzetti¹, F. Rossi²,
H. Durkee², R. Pini² (¹Prato, Italy; ²Sesto Fiorentino FI, Italy)

18.03 Discussion

18.15-19.00 INNOVATIONS "EK"

MODERATORS: V. Maurino (UK), A. Greco (Salerno, Italy)

18.15 Iris trauma: save the iris!

M. Forlini, C. Forlini, A. Bratu, P. Rossini (Ravenna, Italy)

18.22 Endothelial cell loss after Descemet stripping and automated endothelial keratoplasty (DSAEK): 6-year follow-up

M.L. Salvetat, F. Miani, M. Zeppieri, P. Brusini (Udine, Italy)

18.29* DSEK for endothelial failure in patients previously underwent to perforating keratoplasty

R. Mastropasqua, E. Pedrotti, M. Passilongo, G. Parisi, S. Ficial,
P. Di Sarro, G. Marchini (Verona, Italy)

18.36 Outcomes of Descemet Membrane Endothelial Keratoplasty (DMEK) in complicated cases

F. Badala, F. Bergamini (Milano, Italy)

18.43 Discussion

8.30-11.05 SPECIAL LECTURES with clinical cases presentation and LIVE EVALUATION of the PATIENT

MODERATORS: V. Maurino (UK), R. Mencucci (Florence, Italy)
FACULTY: M. Belin (USA), K. Colby (USA), R. Fogla (India), J. Güell (Spain), G. Massaro-Giordano (USA)

- 8.30 Case 1: V. Turco (Salerno, Italy)
- 8.45 **Lecture 1: Refractive surgery in post-keratoplasty ametropia**
M. Tavolato (Padua, Italy)
- 8.55 **Lecture 2: Micropulse laser Photostimulation of trabecular meshwork stem cells**
G. Dorin (USA)
- 9.05 Case 2: C. Agresta (Vallo della Lucania SA, Italy)
- 9.20 **Lecture 3: Up to date in confocal microscopy**
C. Traversi (Siena, Italy)
- 9.30 **Lecture 4: Clinical approach of GVHD**
V. Sarnicola (Grosseto, Italy)
- 9.40 Case 3: P. Toro Ibañez (Grosseto, Italy)
- 9.55 **Lecture 5: The use of femtosecond laser in keratoplasty**
E. Bohm (Mestre VE, Italy)
- 10.05 **Lecture 6: Lesion volume - a new dimension of corneal abnormality on AS-OCT**
S. Fung (UK)
- 10.15 Case 4: G. F. Sinisi (Venosa PZ, Italy)
- 10.30 **Lecture 7: Corneal ectasia new classification: tomographic criteria**
A. Mularoni (Bologna, Italy)
- 10.40 Case 5: F. Romano (Caserta, Italy)

11.05-12.50 INNOVATIONS "KERATOCONUS and CROSS-LINKING"

MODERATORS: L. Mautone (Vallo della Lucania SA, Italy), S. Sbordone (Naples, Italy), V. Turco (Salerno, Italy)

- 11.05* **Corneal microscopy of corneal tunnel in cataract surgery. Changes of innervation**
G. Chimenti, M.E. Latronico, G. Martone, E. Polito, C. Traversi (Siena, Italy)
- 11.12* **Ocular response analyzer (ORA) derived parameters to distinguish normal from keratoconic eyes compared to SIRIUS corneal topography**
T. Baban, H. El Ballouz, E. Warrak (Lebanon)
- 11.19 **Refractive and topographic results of transepithelial corneal collagen cross-linking (TE-CXL) by iontophoresis in young adults**
S. Troisi, R. Forte, P. Vele, E. Chiariello Vecchio, A. Greco, A. Magli (Salerno, Italy)
- 11.26* **Collagen cross-linking and cataract surgery in patients with keratoconus**
L. Spadea, S. Salvatore, E. M. Vingolo (Rome, Italy)
- 11.33* **The use of a novel scleral metaphilicon a soft contact lens after corneal cross-linking for keratoconus**
A. Salicone, G. Arienzo, C. Buongiovanni, L. Motta, G. Sepe, C. De Martino, M. Motta (Castellammare di Stabia NA, Italy)
- 11.40* **Recovery of corneal sensivity after epi-off and epi-on collagen cross-linking in keratoconus**
L. Spadea, S. Salvatore, E. M. Vingolo (Rome, Italy)
- 11.47* **Long term corneal re-innervation after penetrating keratoplasty: an in vivo confocal microscopy study**
M.E. Latronico, G. Cartocci, A. Balestrazzi, G. Martone, E. Polito, C. Traversi (Siena, Italy)

- 11.54 **Accelerated high fluence continuous light (CLAXL) and pulsed light (PLAXL) cross-linking for progressive keratoconus: morphological changes in vivo**
C. Mazzotta^{1,2} (¹Siena, Italy; ²Mesagne BR, Italy)
- 12.01 **One year follow-up results of transepithelial collagen cross-linking by iontophoresis of riboflavin in pediatric patients with progressive keratoconus**
L. Lapenna, F. Montrone (Bari, Italy)
- 12.08 **Transepithelial corneal collagen cross-linking by iontophoresis in children**
A. Magli, R. Forte, E. Chiariello Vecchio, C. Plaitano, S. Troisi, A. Greco (Salerno, Italy)
- 12.15 **Efficacy and safety of accelerated cross-linking with 10Mw/cm²**
A. Balestrazzi, R. Di Cicco, P. Michieletto, M. L. Pizzi, C. Tamburrelli (Rome, Italy)
- 12.22 **To evaluate the clinical effects of corneal cross-linking with and without de-epithelialization on pediatric keratoconic eyes**
M. Fortunato, A. Turtoro (Rome, Italy)
- 12.29 Discussion

12.50-13.15 BEST PAPER S.I.C.S.S.O. 2014

The Moorfields Eye Hospital in London, one of the major and prestigious hospital for the eye care in Europe, has awarded SICSSO with a 1 or 2 week observership for a young ophthalmologist (provided he is under 40). SICSSO is glad to offer this opportunity to the winner of the best presentation of the "Innovations" sessions. The selected abstract presenter will have the chance to observe clinical activities and/or other activities as applicable (cornea and anterior segment surgery) for educational purpose in the Moorfields Eye Hospital: 1.000 euros will be awarded to support the travel and stay expenses.

Il Moorfields Eye Hospital di Londra, il rinomato ospedale per gli occhi, tra i più grandi di Europa, ha messo a disposizione della SICSSO una "observership" di 1 o 2 settimane per un giovane oculista di età inferiore ai 40 anni. La SICSSO offrirà quest'opportunità al vincitore del premio "migliore presentazione delle sessioni Innovations". Il Premio consisterà nella possibilità di frequentare come osservatori le attività cliniche dell'Istituto ospitante, relativamente a chirurgia della cornea e del segmento anteriore. Il soggiorno sarà sostenuto con un contributo di 1.000 euro.

Award Commission

PRESIDENT: V. Maurino (UK)

FACULTY: V. Sarnicola (Grosseto, Italy), G.M. Tosi (Siena, Italy)

*Presentations under consideration for the Best Paper Award SICSSO 2014 are marked with an asterisk * in the program*

*Le relazioni che concorrono all'assegnazione del Premio Miglior Abstract SICSSO 2014 sono segnalate in programma con un asterisco **

... (of the communications included in the Innovations sessions)

CENTRAL TOXIC KERATOPATHY FOLLOWING UNEVENTFUL LASIK

F. Aiello ^{1,2}, G. Jutley ¹, D. Robaei ¹, V. Maurino ¹

¹ Cornea, Cataract & Refractive Department, Moorfields Eye Hospital, London, United Kingdom, ² Department of Experimental Medicine and Surgery, Ophthalmology Unit, University of Rome Tor Vergata, Rome, Italy

Purpose: to evaluate the final visual outcomes after uneventful laser in-situ keratomileusis (LASIK) complicated by central toxic keratopathy (CTK).

Methods: CTK occurred in fifteen eyes from nine patients. All cases arose within a period of 46 days. Five different surgeons from the same Institution performed the surgery. None of the patients had predisposing factors for post LASIK inflammation. There were no intra-operative complications. The diagnosis of CTK was clinical and defined as a non-inflammatory, central opacification, causing reduced visual acuity and hyperopic shift.

Results: Twelve of the total 15 eyes had a diagnosis of peripheral diffuse lamellar keratitis (DLK) preceding the CTK. The DLK was diagnosed within 24 hours in all cases and the CTK appeared with a mean of 7.4±2.0 days after the laser treatment. On the final visit, the mean manifest refraction spherical equivalent (MRSE) was 0.83±1.04 D (range 2.5 to -0.75) and the mean BSCVA was 0.02±0.09 LogMAR (range -0.1 to 0.2). The mean time to resolution of CTK was 4.6±3.3 months (range 1 to 8 months). Overall, 6 out of the 15 eyes (40%) lost 1 line and 2 eyes (13.3%) lost 2 lines in BSCVA.

Conclusion: CTK is an acute non-inflammatory process following either LASIK or surface ablation surgery. We hypothesised that aetiology

was related to a product or equipment used but, despite extensive investigations to find a common cause, we were unable to identify it. With conservative management each patient achieved an excellent visual outcome (all better than 0.2 LogMAR) at the last follow-up.

RECURRENT CORNEAL PERFORATION SECONDARY TO RHEUMATOID ARTHRITIS RELATED DRY EYE

A. Alqahtani, H. Alfaleh
Prince Sultan Medical Military City, Riyadh, Saudi Arabia

Forty seven years old Saudi lady known case of clinically stable rheumatoid arthritis for the last 8 years presented to emergency department on June 2009 complaining of sudden reduction of vision in the left eye with pain.

Ocular Examination revealed left paracentral corneal perforation secondary to severe dry eye. Emergency penetrating keratoplasty (PKP) was performed for the left eye which had longer healing time which was managed by Amniotic Membrane transplantation (AMT)

The post operative course was remarkable for moderate to severe dry eye and persistent superficial punctate keratopathy (SPK) which was treated with preservative free artificial tears. On Oct 2010, she presented to our service with recurrent graft perforation in the left eye. Therefore, the decision was made to perform PKP, AMT and permanent punctal occlusions. Post operatively, detailed discussion with rheumatologist was done to start her on maximum tolerated immunosuppressive agents despite clinically stable condition. In the post operative course, the left corneal graft showed persistent moderate SPK which was improved with permanent temporal tarshorrhaphy.

Last ocular exam of the left eye on March 2013

showed unaided visual acuity of 6/24, moderate SPK, mild anterior corneal haze.

The patient is using preservative free Artificial tears, Lubricant eye ointment and Cyclosporine Ophthalmic Emulsion 0.05% three times a day
Conclusions: This case reveals the importance of adjustment of systemic immunosuppressive agents according to the severity of dry eye even if the other clinical findings are stable. Consultation with treating rheumatologist is important part in the management.

VITREORETINAL EVENTS IN EYES RECEIVING PEDIATRIC TYPE I DOHLMAN (BOSTON) KERATOPROSTHESIS

A. Sangave, R. Ramchandran, J. Aquavella, D. Diloreto, M. Chung
Department of Ophthalmology - University of Rochester Medical Center, Rochester, USA

Purpose: To report vitreoretinal pathology in pediatric eyes receiving type I Dohlmán keratoprosthesis.

Methods: Retrospective chart review was performed for patients under the age of 18 who received a type I Dohlmán keratoprosthesis (K-Pro) at the University of Rochester Eye Institute from 2004 through 2007. Preoperative diagnoses, intraoperative findings, and post operative events were recorded for each eye with specific emphasis on vitreoretinal (VR) pathology. Results: 51 eyes of 39 pediatric patients (17 F; 22 M), median age 32 months, who received K-Pro were identified. 12 patients received bilateral K-Pro and 27 patients received K-Pro unilaterally. The two most common indications for K-Pro insertion were Peter's anomaly (30 eyes) and congenital glaucoma (8 eyes). 23 eyes had previously undergone a penetrating keratoplasty that had subsequently failed. VR pathology pre K-Pro was present in 12 eyes. 75% (8/12) eyes with and 48% (19/39) eyes without prior VR pathology developed and were treated for new VR events after K-Pro. These were most commonly retroprosthetic membrane (24 eyes) and retinal detachment (18

eyes). Seventeen eyes experienced multiple post-implant VR events. Of 3 bilateral KPro cases with preexisting pathology in both eyes, all had VR pathology after KPro insertion. Conclusions: Dohlmán type I K-Pro provides functional vision in children with otherwise blinding corneal opacities. Despite prior b-scan ultrasound, pre-existing VR pathology may be identified only after implantation of the keratoprosthesis. Postoperative vision threatening vitreoretinal events may also occur in a relatively short follow-up period. VR specialists are crucial in the management of these patients.

OUTCOMES OF DESCMET MEMBRANE ENDOTHELIAL KERATOPLASTY (DMEK) IN COMPLICATED CASES

F. Badala, F. Bergamini
Istituto Auxologico Italiano, Milan, Italy

PURPOSE: To present Descemet Membrane Endothelial Keratoplasty (DMEK) outcomes in complex cases such as: triple procedure, anterior chamber IOLs and eyes remaining phakic.

METHODS: Thirteen eyes of 13 patients who underwent DMEK and concomitant cataract extraction with IOL implantation (7), or that had a previous anterior chamber IOL (3), or that were left phakic (3) were included in the study. Patient follow-up ranged from a minimum of 3 months up to 8 months. Preoperative and postoperative best spectacle-corrected visual acuity and complications were recorded. Endothelial cell loss, graft dislocation, graft failure rates were calculated.

RESULTS: Indications for surgery included Fuchs dystrophy, pseudophakic bullous keratopathy and failed penetrating keratoplasty graft. All grafts cleared and remained clear. The graft dislocation and rebubbling rate was 7.7% (1 out of 13). The mean best spectacle-corrected visual acuity improved significantly from 20/200 to 20/400 before surgery to 20/43 at 1 month, 20/37 at 6 months. For those patients

with data available, the average endothelial cell loss was 22% at six months.

CONCLUSIONS: Early clinical outcomes of DMEK in complex cases are encouraging. The technique is now safe and effective even in complicated cases. Longer follow-up and larger studies are needed to support the initial findings.

IN VIVO CONFOCAL MICROSCOPY OF CONJUNCTIVA IN PRESERVATIVE-FREE TIMOLOL 0.1% GEL FORMULATION THERAPY FOR GLAUCOMA

S. Bagaglia¹, P. Frezzotti¹, P. Fogagnolo², I. Motolese¹, M. Iester³, P. Mittica¹, C. Menicacci¹, L. Rossetti², E. Motolese¹
¹ *Departement of Ophthalmology, University of Siena, Italy,* ² *Eye Clinic, San Paolo Hospital, University of Milan, Italy,* ³ *University of Genoa, Italy*

Purpose: To evaluate the effects at 1 year of preservative-free timolol gel and preserved timolol eye drops on conjunctiva and tear parameters.

Methods: Forty patients with primary open-angle glaucoma or ocular hypertension were randomized to the two treatment groups and compared with 20 healthy age-matched controls. Clinical tests (IOP, Schirmer I test, and lacrimal film break-up time BUT) and in vivo conjunctival confocal microscopy (IVCM) were performed in all patients at baseline and after 12 months. IVCM (HRT II Rostock Cornea Module; Heidelberg Engineering GmbH, Heidelberg, Germany) was performed after topical anaesthesia in the four cardinal locations and at the corresponding limbus to analyse conjunctiva cells. The main IVCM outcomes were goblet cell density and epithelial regularity. **Results:** IVCM and clinical parameters were similar in the three groups at baseline. After 12 months, intra-epithelial goblet cell density was significantly lower in the preserved. than in the preservative-free beta-blocker group and controls. The epithelial layer was significantly

more regular in the preserved beta-blocker medication group than in the preservative-free beta-blocker group, and the control group ($p < 0.001$). A significant reduction in both Schirmer I and BUT was found in the group of preserved timolol compared with preservative-free timolol and controls.

Conclusions: Based on our IVCM data, preservative-free beta-blocker gel induces less changes at ocular surface than preserved beta-blockers, a fact that should be considered to obtain less adverse effects and maximal adherence to treatment in a chronic condition such as glaucoma.

EFFICACY AND SAFETY OF ACCELERATED CROSS-LINKING WITH 10MW/CM2

A. Balestrazzi, R. Di Cicco, P. Michieletto, M. Pizzi, C. Tamburrelli
Department of Ophthalmology - Ophthalmic Hospital, Rome, Italy

Purpose: To evaluate the efficacy and the safety of accelerated Cross-Linking with 10mW/cm² in patients with keratoconus and to show any differences with standard Corneal Cross-Linking with 3mW/cm² UV light.

Setting: Ophthalmic Hospital of Rome
Methods: 30 eyes of 30 patients have been treated by two surgeons with higher intensity cross linking (10mW/cm²) in late 2013 at Department of Ophthalmology of Ophthalmic Hospital of Rome.

All patients were submitted to digital slit lamp biomicroscopy, visual acuity test, Corneal Topography, Anterior segment OCT and confocal microscopy.

Results: In most of case demarcation line OCT was between 210 and 250 mm, we had no postoperative complications.

The postoperative course was similar to that of traditional cross linking (3mW/cm²).

In some cases we noticed slight transient corneal opacity.

In all cases patients reported less discomfort

and less burning during surgery with respect to traditional cross linking.

Conclusions: Our preliminary clinical results suggest that accelerated Cross-Linking with 10mW/cm² and standard Corneal Cross-Linking with 3mW/cm² UV light have similar effects on the cornea.

Reduce the treatment time to 9 minutes can be of benefit to both the patient and surgeon and may widen the indications of this type of treatment and to increase the number of patients treated.

Financial Disclosure: None.

OUTCOMES OF MUSHROOM KERATOPLASTY WITH FEMTOLASER IN PATIENTS WITH CENTRAL LEUKOMA

C. Cagini, F. Piccinelli, F. Riccitelli, M. Messina
Clinica Oculistica Dipartimento di Specialità Medico Chirurgiche e Sanità Pubblica - Università degli Studi di Perugia, Italy

PURPOSE: To evaluate the outcomes of mushroom keratoplasty for the treatment of central full-thickness corneal scars, according to the surgical technique combined femtolasermicrokeratome.

METHODS: prospective case series. Mushroom keratoplasty was performed in ten cases of central full-thickness corneal scars resulting from various origin (post traumatic, keratoconus and corneal dystrophy). The average age at the time of surgery was 42aa±15.13. Visual acuity, refraction, slit-lamp examination, endothelial cell density and corneal topography (with pachimetry and keratometry) were evaluated preoperatively and postoperatively (at 1, 3, 6 and for six patients even at 12 months after surgery). The clarity and correct location of the graft were recorded during the follow up.

The donor graft consisted of a large anterior stromal lamella of 9.0 mm in diameter performed by femtosecond laser and a small posterior button of 6.0 mm in diameter

including deep stroma and endothelium performed by microkeratome. Only the anterior lamella was sutured with nylon 10.0. **RESULTS:** There was only one case of posterior flap's temporary dislocation (resolved by injecting an air bubble). In all cases at the last follow up the graft was clear and well positioned. In all cases a very smooth and clear interface was obtained. In all cases the resulting best spectacle-corrected visual acuity was better than 4/10 (two of these better than 8/10). In some cases visual recovery was limited by the underlying ocular diseases (glaucoma, keratoconus, amblyopia). At the last follow up the average astigmatism was 2.11±1.203 diopters, the average endothelial cell density was 1772±234.93 cells/mm² and the average central corneal thickness was 437.8±44.92 µm.

Mushroom keratoplasty combines the visual and refractive advantages of reduced surface distortion and fast healing of the large anterior lamellar graft with the advantages of reduced risk of immunologic rejection and improved graft survival due to the preservation of healthy recipient endothelium.

BIG-BUBBLE DEEP ANTERIOR LAMELLAR KERATOPLASTY IN PEDIATRIC PATIENTS: FEMTOSECOND LASER VERSUS MECHANICAL TREPHINE. TWO YEARS FOLLOW UP

L. Buzzonetti, G. Petrocelli, P. Valente, S. Petroni
Bambino Gesù IRCCS Children's Hospital, Rome, Italy

Purpose: To evaluate the refractive outcome 24 months after big-bubble Deep Anterior Lamellar Keratoplasty (DALK) in pediatric patients performed using femtosecond laser with mushroom incisions or mechanical trephine.

Setting: Ophthalmology Department, Bambino Gesù IRCCS Children's Hospital, Rome, Italy
Methods: Ten eyes of 10 patients affected by

keratoconus were treated. Five eyes (Group 1) underwent big-bubble DALK by Hessburg Barron mechanical trephine (mean age 12 ± 4.0 {SD} years; range, 8 to 16 years) and 5 eyes (Group 2) by IntraLase 60 KHz (Abbott Medical Optics, Inc.) femtosecond laser with mushroom incisions. (mean age 14 ± 3.6 {SD} years; range, 8 to 10 years). Sutures were removed by 10 postoperative months in all patients. Spherical equivalent, refractive astigmatism and Best Corrected Visual Acuity (BCVA) were evaluated 24 months after surgery. The independent Student t test was used to compare each parameter between the 2 groups ($P < 0.05$ was considered significant).

Results: In Group 1 spherical equivalent and refractive astigmatism were -4.9 ± 0.7 {SD} and -5.8 ± 3.3 {SD}, while BCVA was 6.6 ± 0.6 {SD}. In Group 2 spherical equivalent and refractive astigmatism were -1.3 ± 0.3 {SD} and -2.6 ± 0.7 {SD}, while BCVA was 8.6 ± 1.1 {SD}. Only the spherical equivalent value showed significant changes between Group 1 and 2 ($p < 0.05$).

Conclusion: These findings suggest that in pediatric patients the big-bubble DALK assisted by femtosecond laser compared to the mechanical trephine seems to improve the refractive outcome.

UNUSUAL CASE OF ACANTHAMOEBA AND ASPERGILLUS KERATITIS

L. Capasso¹, A. Tortori¹, L. Gifuni¹, E. Picciotti², A. Tortori¹

¹ASL NA 1 Centro, PO dei Pellegrini, UOC Prelievo e Trapianto Cornea, Naples, Italy,

²ASL NA 1 Centro, PO dei Pellegrini, UOC Anatomia Patologica, Naples, Italy

To report coinfection with Acanthamoeba and Aspergillus in a patient with keratitis.

A 67-year-old man presented to the emergency department of our hospital with a history of progressively increasing pain, redness, photophobia, mucopurulent discharge, and

diminution of vision in his left eye.

Corneal scrapings showed Acanthamoeba. However, a corneal transplant was performed due to the keratitis unresponsive to medical treatment. Histopathologic examination of excised cornea revealed the presence of cysts and fungal hyphae. Culture from material removed by anterior chamber was positive for Aspergillus. After 1 week a new corneal transplant was performed. Complete resolution of keratitis was achieved after 10 weeks of treatment. Infectious keratitis is potentially sight-threatening condition and frequently presents as an ocular emergency.

MINI WELL, THE FIRST PROGRESSIVE MULTIFOCAL IOL

C. Carbonara
Rome, Italy

PURPOSE: Verifying the real near/intermediate/far performance of the new MINI WELL IOL by SIFI MEDTECH. METHOD: Authors refer about a clinical trial conducted on a limited number of patients underwent to implantation of the new preloaded multifocal progressive IOL. The lens, result of patented engineering innovation, used as input the wavefront technology for the design of the IOL to produce the progressive multifocality allowing a good patients compliance. The number of patients on which MINI WELL IOL was implanted is limited, due to the very recent introduction on the market of this product. It will be increased later for further clinical-functional assessments.

RESULTS: Visual acuity has been reported for far and near, obtained to one week and one month after surgery with objective and instrumental reports.

CONCLUSIONS: Anatomical and functional results were all positive and obtained in adequate clinical times with any particular therapeutic need and with significant index of satisfaction from patients.

RAMAN MICROSPECTROSCOPY ANALYSIS IN THE TREATMENT OF ACANTHAMOEBA KERATITIS

G. Cennamo¹, D. Di Cave², L. Cerulli², A. Sasso³

¹Department of Neuroscience, Reproductive Science and Odontostomatology, Univ.

Federico II, Naples, Italy, ²Department of Experimental Medicine and Surgery, Univ. Tor Vergata, Rome, Italy, ³Department of Fisics,

Univ. Federico II, Naples, Italy

Acanthamoeba keratitis is a rare but serious corneal disease, often observed in contact lens wearers. Clinical treatment of infected patients frequently involves the use of polyhexamethylene biguanide (PHMB), a polymer used as a disinfectant and antiseptic, which is toxic also for the epithelial cells of the cornea. Prompt and effective diagnostic tools are hence highly desirable for both starting early therapy and timely suspension of the treatment. In this paper we use Raman microspectroscopy to analyze in vitro a single-cell level, providing useful information on both the underlying biochemical mechanism and the time frame for Acanthamoeba eradication in ocular infections. Furthermore we demonstrate that Raman spectroscopy, in conjunction with standard multivariate analysis methods, allows discriminating between live and dead Acanthamoebas, which is fundamental to optimizing patients treatment.

CORNEAL MICROSCOPY OF CORNEAL TUNNEL IN CATARACT SURGERY. CHANGES OF INNERVATION

G. Chimenti, M.E. Latronico, G. Martone, E. Polito, C. Traversi

University of Siena, Department of Medical and Surgical Sciences and Neurosciences, Siena; Italy

PURPOSE: to investigate corneal changes made by access realized with cataract surgery and

to quantize the status of corneal nerve fiber observed by confocal microscopy. Symptoms of foreign body frequently accompanies the post-operative course in patients operated for cataract. The corneal changes made by access realized with cataract surgery are among the factors that are known to cause foreign body sensation. The incision in clear cornea in cataract surgery changes the nerve fiber stratus and it is responsible of foreign body symptoms that frequently accompanies the post-operative course. Confocal microscopy allows to evaluate the changes made by surgery.

PARTECIPANTS: 60 patients with clear cornea undergo to cataract surgery; none of patients had a history of corneal dystrophy and inflammation, systemic therapy with anti-glaucoma drugs, steroids, the use of contact lenses.

METHODS: we have evaluated all selected patients day before surgery, the day after surgery, at the 30th day after surgery and at the 90th day after surgery, and in vivo confocal microscopy of the cornea (HRTII Rockstock cornea module) was performed.

RESULTS: all the patients showed an interruption of the sub-basal corneal nerve fiber after the engravings for the surgery, and a very slow recovery of the normal corneal innervation. In all the patients it is possible to observe, the day after surgery, an interruption of corneal nerve fiber in correspondence of the incision matching to alterations of the corneal stroma. One month after the surgery the stroma alterations are also visible, but we can see a progressive recovery of the normal morphology instead the nerve fibers are not yet normal. There are also present corneal alterations at the level of epithelial cells. After 90 days we observe the presence of fibrosis at the level of the corneal incision with recovery of nerve fiber.

CONCLUSIONS: the authors show a study based on corneal confocal microscopy to evidence the changes that are localized at the tunnel level, and all the nerves alterations seems to be the primary reason of foreign body sensations reported by patients.

MULTIFOCAL PRESBYOPIA CORRECTION BY PRESBYTEC LASER TREATMENT WITH 36 MONTHS EXPERIENCE COMBINED WITH CMF THERAPY

G. Citroni

Centre of Ophthalmology, Darfo Boario Terme (BS), Italy

Purpose: To investigate the multifocal laser correction of presbyopia combined with CMF Therapy

Methods: We are reporting the results of a prospective study on 142 ametropes or emmetropic presbyopic patients. Preoperatively routine eye examination included distance vision and near vision, corneal thickness, and wavefront measurements. Before treatment and 1,2 days after CMF therapy. The patients underwent PRK multifocal ablation with Presbytec Gauss Laser.

Results: The mean age of the patients was 54.5. With CMF therapy post PRK pain was very reduced and complete re-epithelialization was in three days. Follow up time was up to 36 months. Results revealed a stable Uncorrected Near Visual Acuity with statistically significant gain from mean J6 to J2 (J7-J1) (p<0.001). Preoperative Uncorrected mean Distance Visual Acuity was stable postoperatively. There was no loss of distance corrected visual acuity. Regression happened in 6 % of cases. The results obtained with multifocal Presbytec System are similar to those obtained with the other technical systems for presbyopia laser correction.

Conclusions: Multifocal Presbytec System combined with CMF therapy is a viable presbyopia laser correction, especially in patients ametropes and shows stable refractive outcomes with 94% patient satisfaction . It is essential a careful selection of the patients to provide a result of refraction of success.

LASER BLENDED VISION (PRESBYOND) - A NEW PROCEDURE TO CORRECT PRESBYOPIA

K. Ditzen

City Center Weinheim, Weinheim, Germany

Purpose: Description of a new corneal excimerlaser-surgery to correct presbyopia with LASIK binocular simultaneously.

Method: LASIK was done bilateral simultaneously with the Schwind Pendular Microkeratom in combination with the Carl-Zeiss-Meditec Excimerlaser MEL 80. There were treated 50 eyes: 28 hyperopic and 22 myopic eyes - range from 41-54 years. The dominant eye was corrected to zero, the non-dominant eye to max. 1,5 D anisometropia. Control time one year.

Results: The outcomes after Laser Blended Vision showed a good subjective acceptance and satisfaction. There were a good stability, safety and predictability. Postoperatively all patients needed no reading glasses. No nightvision and contrast-sensitivity problems were noted. Binocular vision was reduced only in the first postop period.

Conclusion: Laser Blended Vision (Presbyond) correction for presbyopia combines the advantage of micro-mono vision, increased depth of field in both eyes. The full corrected dominant eye and the intended undercorrected non-dominant eye showed satisfactory results with neural adaption and - suppression.

OCULAR RESPONSE ANALYZER (ORA) DERIVED PARAMETERS TO DISTINGUISH NORMAL FROM KERATOCONIC EYES COMPARED TO SIRIUS CORNEAL TOPOGRAPHY

T. Baban, H. El Ballouz, E. Warrak
Saint George Hospital - University Medical Center, Beirut, Lebanon

Purpose: To evaluate the ability of the Ocular Response Analyzer to differentiate between normal and keratoconic eyes as compared to Sirius corneal topography.

Methods: 302 eyes of 151 patients were

included. Patients underwent evaluation for keratoconus with ORA and Sirius corneal topography. Additional parameters included Surface asymmetry index on Sirius, Corneal Hysteresis, Corneal resistant factor, Keratoconus Match Index, Goldmann-correlated intraocular pressure and Corneal compensated intraocular pressure on ORA.

Results: 302 eyes, 78 females and 73 males were included in the analysis. Patient ages ranged from 14 to 76 years (mean 34.6). On Sirius corneal topography, out of 302 eyes; cases were read as normal in 198 eyes, compatible keratoconus in 50 eyes, Abnormal in 30 eyes and suspect keratoconus in 24 eyes. While on ORA out of the same of 302 eyes; only 121 eyes were documented as normal, suspect keratoconus in 100 eyes, mild keratoconus in 58 eyes, moderate keratoconus in 15 eyes and severe keratoconus in 8 eyes. Chi-Square test was showed no relationship between keratoconus classification results on ORA and Sirius corneal topography (p < 0.001).

Conclusion: There are no studies comparing Sirius and ORA. While Sirius imaging gains status as a reliable method for assessing cornea, ORA rapidly gains a reputation for being the first biomechanical testing device approved for clinical use. There still remain questions to be answered regarding the properties of corneal biomechanics. Based on our results, we recommend not using these devices interchangeably to evaluate patients for keratoconus prior to refractive surgeries.

ENDOSCOPIC CYCLOPHOTOACOAGULATION IN REFRACTORY GLAUCOMA AFTER OSTEO-ODONTO-KERATOPROSTHESIS IN STEVENS-JOHNSON SYNDROME

M. Forlini, A. Bratu, P. Rossini, C. Forlini
Santa Maria delle Croci Hospital, Ravenna, Italy

We report successful treatment of refractive glaucoma with Endoscopic Cyclophotocoagulation (ECP) in patient submitted to osteo-odonto-keratoprosthesis (OOKP) surgery for Stevens-Johnson syndrome (SJS).

The patient is a 62 year-old Indian man with

known Stevens-Johnson syndrome (SJS) since 1972 secondary to tetracycline therapy, with bilateral dry eye and corneal blindness. He underwent symblepharon release surgery with mucous membrane graft in both eyes. OOKP surgery was later performed on the left eye. He was submitted to 2 Ahmed valve implants to control secondary glaucoma but visual fields continued to worsen; hence, he underwent 140° endoscopic cyclophotocoagulation with good control of IOP.

A week later visual acuity was 6/10 and intraocular pressure felt fairly normal on palpation. After 3 months, IOP and visual field showed some improvements; visual acuity improved too, reaching 8/10.

Endoscopic Cyclophotocoagulation as alternative treatment provides good results in refractory glaucoma after OOKP surgery.

Topical and systemic glaucoma medication, aqueous shunt surgery, and diode laser are all potential management options. Glaucoma drainage implants prevent the severe elevation of IOP that occurs in some patients treated with keratoprosthesis surgery. Although progression to end-stage glaucoma can occur despite the use of glaucoma drainage implants, said implants effectively reduce the IOP and prevent glaucomatous optic nerve or visual field changes in the majority of patients.

An alternative is Endoscopic Cyclophotocoagulation, which can be performed using a mini-invasive vitrectomy system to minimize surgical trauma.

REVERSE FLOW ONE PORT PARS PLANA VITRECTOMY TECHNIQUE: EFFECT OF FLUIDICS THROUGH THE ANTERIOR CHAMBER INFUSION ON THE CORNEAL ENDOTHELIUM

M. Forlini, C. Forlini, A. Bratu, P. Rossini
Department of Ophthalmology, Hospital S. Maria delle Croci, Ravenna, Italy

Purpose: The aim of the study is to evaluate the corneal endothelium count after using anterior chamber infusion canula during

the reverse zonular flow “Reverse flow” one port pars plana vitrectomy technique and comparing this technique to the classic vitrectomy with the infusion canula in the pars plana. This technique was used to decrease the turbulence of fluids in the vitreous cavity and for the possibility of decreasing the number of scleral ports to one port in cases of simple vitrectomy.

Methods: The study group was divided into two groups. Fourteen eyes underwent classic vitrectomy surgery with the infusion canula in the pars plana and the other fourteen eyes underwent re-flow one port vitrectomy with the infusion canula in the anterior chamber. Corneal endothelial cell count was measured for both groups before surgery and at 30 days, 90 days, 180 days, 270 days and 360 days follow up points after surgery. The percentage of average loss of corneal endothelial cells were compared between the two groups.

Conclusion: The re-flow one port vitrectomy technique with the infusion canula in the anterior chamber is not damaging to the corneal endothelium and have a safe comparable effect like that of the classic vitrectomy technique with infusion canula in the pars plana.

IRIS TRAUMA: SAVE THE IRIS!

M. Forlini, C. Forlini, A. Bratu, P. Rossini
Department of Ophthalmology, Hospital S. Maria delle Croci, Ravenna, Italy

PURPOSE: Ocular traumatology represents an ultra specialist branch of ocular surgery. The iris is often considered as a boundary area between anterior and posterior segment surgery and is a zone not well defined between the competency of vitreoretinal and anterior segment surgeon. To show our strategy on traumatic iris injuries.

METHODS: We reviewed eyes with only anterior injuries and combined anterior

and posterior segment injuries. In the first situation, we used closed-chamber technique to repair iris lacerations externally via the McCannel suture technique. In the second situation, open-sky surgery technique was used to repair iris injuries, necessitating the use of TKP for exploration and reconstruction. We use 25G anterior chamber infusion and mini-invasive 25/23G system. At the end, we performed retropupillary implantation of the iris claw intraocular lens.

RESULTS: In all these cases with iris trauma the the retropupillary iris claw intraocular lens was stable without disenclavation.

CONCLUSIONS: “The middle-earth” is an area of surgery not well defined. Instead of combining techniques and equipment of anterior and posterior segment surgery it is possible to manage injuries of that sector. At the time of primary repair, every effort should be made to preserve as much of normal iris tissue as possible. This greatly helps in subsequent anterior segment reconstruction.

TRANSEPIHELIAL CORNEAL COLLAGEN CROSS-LINKING BY IONTOPHORESIS IN CHILDREN

A. Magli¹, R. Forte¹, E. Chiariello Vecchio¹, C. Plaitano¹, S. Troisi², A. Greco²
¹ *Pediatric Eye Department, University of Salerno, Italy;* ² *Eye Department, Ruggi d’Aragona Hospital, Salerno, Italy*

Purpose. To evaluate the effectiveness of corneal impregnation with riboflavin 0.1% by iontophoresis for cross-linking in children.

Methods. We included all consecutive patients with keratoconus and age under 18 years visited between January and June 2013. Inclusion criterion was the topographical and functional progression of keratoconus

over the last three months. The riboflavin solution was administered by iontophoresis for 10 min in total, after which standard surface UVA irradiation (370 nm, 3 mW/cm²) was performed for 30 min.

Results. Fourteen patients (9 males, 5 females, mean age 16.1 ± 2.2 years, 28 eyes) were included in the study. After six months a stabilization of visual acuity (from 0.51 ± 0.3 to 0.51 ± 0.4 LogMAR) and keratometric values (from 46.4 ± 1.03 to 46.1 ± 1.2D) was observed in 9 patients, while no significant worsening occurred in 5 patients.

Conclusions. Transepithelial corneal cross linking by iontophoresis could become an effective method to reduce the duration of the procedure and increase comfort for patients in pediatric age. Further long-term studies are needed to evaluate the efficacy and spectrum of risk.

TO EVALUATE THE CLINICAL EFFECTS OF CORNEAL CROSS-LINKING WITH AND WITHOUT DE-EPITHELIALIZATION ON PAEDIATRIC KERATOCONIC EYES

M. Fortunato, A. Turtoro
Spedale Pediatrico Bambino Gesù, Rome, Italy

Purpose: Authors performed UV corneal Cross-Linking in 30 paediatric eyes (age: 9-16 years) with severe keratoconus: 16 eyes were treated with epithelial alcoholic removing (first group) and 14 eyes with trans-epithelial Cross-Linking (second group, with corneal thickness < 400 μm). In all eyes Riboflavin 0.1% was instilled for 30 minutes, ultraviolet A irradiation was applied for 30 minutes, while riboflavin was instilled every 5 minutes. The follow-up time was 3 years for the first group and 6 months for second group

Methods: Progression of keratectasia was stopped in all patients; Best corrected visual acuity and the maximal keratometry values improved in all cases. Corneal transparency,

the degree of keratectasia registered by corneal topography and the density of endothelial cells remained unchanged and stable within the follow-up time. In first group Authors observed in 1 eye a delayed re-epithelialization, treated and resolved with topical medications and application of contact lens. In second group no complications were observed within the follow-up time.

Results: Keratoconus in paediatric age has a different and dramatically quick progression than in adult eyes, despite the high elasticity of young corneas; therefore, a minimally invasive therapy that delays and doesn’t preclude transplantation at a later stage is precious.

Conclusions: Authors believe that trans-epithelial Cross-Linking could be applied to every kind of paediatric keratoconus because it is easier to perform to increase cooperation of young patients and no complications of re-epithelialization. **FINANCIAL DISCLOSURE:** None.

ONE YEAR FOLLOW UP RESULTS OF TRANSEPIHELIAL COLLAGEN CROSS-LINKING BY IONTOPHORESIS OF RIBOFLAVIN IN PEDIATRIC PATIENTS WITH PROGRESSIVE KERATOCONUS

L. Lapenna, F. Montrone
Di Venere Hospital, Bari, Italy

PURPOSE: To report the outcomes of Transepithelial collagen cross-linking by iontophoresis of riboflavin in patients below age 18 with progressive keratoconus (KC).

METHODS: CXL by iontophoresis of riboflavin was performed in a series of 11 eyes of 7 patients (mean age 14.7±1.9 years, range 11-18 years) with progressive keratoconus stage II-III of Amsler classification. Hypotonic riboflavin solution was administered for 5 minutes by iontophoresis, after which accelerated surface UVA irradiation (370 nm, 10 mW/cm²) for 9 minutes. Uncorrected visual acuity (UCVA), best spectacle-corrected

visual acuity (BSCVA), refraction, central corneal thickness and K-max measurements were evaluated at baseline and at 1, 3, 6 and 12 months

RESULTS: Mean logarithm of the minimum angle of resolution baseline UCVA and BSCVA were 0.2 and 0.1 ± 0.15, respectively. Mean UCVA and BSCVA at one year improved significantly of 56.6% and 48.5%, respectively. No loss in lines of best spectacle visual acuity has been noticed at 6 months postoperatively. Mean spherical equivalent refraction showed a significant decrease of 0.95 diopters (D) at 12 months. Mean baseline Maximum keratometry decreased of 0.7 D at one year follow-up. No significant change of central corneal thickness was observed. No pain and adverse side effects were reported.

CONCLUSIONS: CXL by iontophoresis of riboflavin seems to be a safe and effective procedure in changing the natural course of keratoconus in pediatric patients. Further long-term studies are necessary to complete the evaluation of the efficacy and risk spectrum of this modified cross-linking technique.

LONG TERM CORNEAL RE-INNervation AFTER PENETRATING KERATOPLASTY: AN IN VIVO CONFOCAL MICROSCOPY STUDY

M.E. Latronico, G. Cartocci, A. Balestrazzi, G. Martone, E. Polito, C. Traversi
University of Siena, Department of Medical and Surgical Sciences and Neurosciences, Siena, Italy

PURPOSE: To comprehensively study the cross anatomy of human corneal re-innervation after penetrating keratoplasty by in vivo confocal microscopy.

PARTECIPANTS: 40 patients that underwent a penetrating keratoplasty (follow up time 3-20 years) were examined by confocal

microscopy (HRT II Rostock Cornea Module). **METHODS:** The authors evaluated the sub-basal nerve plexus (SNP) across the central donor cornea and the junction between donor and recipient cornea. The nerve morphology and density was not correlated with the follow-up time and the pre-operative corneal disease.

RESULTS: regenerated sub-epithelial nerve fibers were present in the whole cornea and the nerve presence was correlated with recovery of sensibility. The nerve fiber density and number of single nerve fibers was not dependent on follow up time, and was not correlated with the pre-operative pathology. In patients that underwent to keratoplasty because of keratoconus, the recovery of corneal innervation occurred in variable ways, sometimes after only one year, and other times after 10 years.

CONCLUSIONS: Corneal reinnervation after PK, that not changes the transparency of the corneal flap, happens in different way without any significative correlations with the pathology of the recipient.

QUANTITATIVE CHARACTERIZATION OF OCULAR DAMAGE IN SJOGREN'S SYNDROME PATIENTS WITH FRACTAL ANALYSIS

M.E. Latronico¹, R. Franceschini¹, L. Cantarini², G. Bianciardi³, C. Traversi¹
¹ University of Siena, Department of Medical and Surgical Sciences and Neurosciences, Siena, Italy, ² University of Siena, Department of Rheumatology, Siena, Italy, ³ University of Siena, Department of Medical Biotechnology, Siena, Italy

PURPOSE: to investigate changes in tear dynamics and corneal microstructure in patients with Sjogren's Syndrome (SS) and to quantize the status of corneal nerve fiber observed by confocal microscopy. Dry eye affects many individuals worldwide, and a significant portion of patient with dry eye

has SS, a progressive, autoimmune condition. The alterations of ocular surface are common in Sjogren's Syndrome, and visible at the slit lamp. Pathological process interests also deeper corneal stratus as for example the sub-epithelial nerve corneal plexus that is possible to explore by Confocal microscopy. Fractal analysis is able to study the complexity of biological structures, and perform diagnosis and prognosis in the patient. Fractal dimension, the critical exponent characterizing the geometry of fractal objects, is an index of geometrical complexity or, more precisely, of the degree to which the pattern fills the metric space in which is embedded. Single-pixel contours of the images were extracted by a Kenny edge filter and submitted to analysis to determine the fractal dimension by box-counting technique. The single-pixel contours images were represented in a graphic window of 501 x 429 pixels. Fractal dimensions of the 2-D images were measured using the box-counting algorithm. Briefly, each image was covered by nets of square boxes (from 1 to 130 pixels) and the amount of boxes containing any part of the outline was counted. A log-log graph was plotted of the reciprocal of the side length of the square, against the number of outline-containing squares. The slope of the best linear segment of the graph, calculated by performing the least-square method iteratively over all linear segments ranging from 30 to 130 points, represented the fractal dimension of the image. The methodology was implemented by one of us, using software written in Visual Basic and a personal computer. The method was validated by measuring computer generated Euclidean and fractal shapes of known fractal dimensions (Circumference = -0.7%; Square = + 0.4%; Triadic Koch island = -0.9%; Sierpinski's Triangle = -1.5%).

PARTECIPANTS: 50 patients, with primary SS, diagnosed by biopsy of salivary gland and blood test (ENA, ENA Blotting, SSA, SSB) and

50 sex-matched control study.

METHODS: we have evaluated fluorescein tear break up time (FTBUT), Schirmer test I, color with Lissamine green, corneal sensitivity by Cochet Bonnet nylon-threas esthesiometer, and fractal dimension of corneal nerve fibers after in vivo confocal microscopy of the cornea (HRTII Rockstock cornea module).

RESULTS: Fractal dimension of the corneal nerve fibers presents an inverse correlation of D with salivary glands atrophy and a direct correlation with the Schirmer test. Fractal dimension analysis of the corneal nerve fiber statistically distinguish between Sjogren's syndrome patients and healthy subjects showing a reduction of D in the patients (p<0.01). To note that the dispersion inside the class was high (healthy controls: 1.63 ± 0.11 (mean value, SD), minimum-maximum value: 1.45 – 1.77; Sjogren's syndrome patients: 1.53 ± 0.13 (mean value, SD), minimum-maximum value: 1.35 – 1.72)

CONCLUSIONS: Tear function tests, ocular surface vital staining, chertoesthesiometry and fractal analysis of the corneal nerve fibers in confocal microscopy, appear able to characterize the SS patient in relation to the recognition of an impairment of the ocular surface, which appears to be necessary to choose the best therapy of the patient.

EFFECT OF TOPICAL MANNITOL 10% SOLUTION IN PATIENTS WITH CORNEAL EDEMA AFTER CATARACT SURGERY

G. Martone, P. Pichierri, P. Massimo, A. Tarantello, V. Corbo, C. Traversi
University of Siena, Department of Medical and Surgical Sciences and Neurosciences, Siena, Italy

PURPOSE: To evaluate postoperative corneal changes in patients with corneal edema after phacoemulsification cataract surgery with the use of topical mannitol 10% solution.

METHODS: 46 patients planned for routine phacoemulsification cataract surgery were included in this prospective comparative randomized study. The patients were selected based on their increase in central corneal thickness with a > 20% increase at postoperative day 1 and divided in two groups. The first group (23 patients) was treated with topical mannitol 10% solution and the second (control) group (23 patients) was treated with topical hyaluronic acid solution. Optical pachymetry (Visante OCT, Zeiss, Germany) and specular endothelial microscopy (Perseus, CSO, Italy) of the cornea were performed preoperatively and at 1, 7 and 30 days after surgery. The primary outcome measures were corneal endothelial cell loss and increase in pachymetry.

RESULTS: In the second group the central corneal thickness remained increased on day 7 compared with preoperative values and in the first group it gradually reduced to preoperative levels by the 1-week postoperative period. There was no difference in corneal thickness between the two groups at 30th days after surgery.

CONCLUSIONS: Measuring the difference in pachymetry at postoperative day 1, 7 and 30 is a useful way to assess the effects on the corneal endothelium exerted by the phacoemulsification procedure.

To evaluate changes occurring in central corneal thickness after uneventful cataract surgery in patients with immediate postoperative corneal edema, topical mannitol 10% solution appears useful to improve the early recovery of the normal corneal transparency.

DSEK FOR ENDOTHELIAL FAILURE IN PATIENTS PREVIOUSLY UNDERWENT TO PERFORATING KERATOPLASTY

R. Mastropasqua, E. Pedrotti, M. Passilongo, G. Parisi, S. Ficial, P. Di Sarro, G. Marchini
Eye Clinic, Verona, Italy

Introduction: DSEK appears similar to penetrating keratoplasty (PK) in terms of efficacy and graft survival. Moreover it seems to be superior to PK in terms of refractive outcomes, wound and suture-related complications. One of the most challenging case of endothelium failure to manage is whom that occurs in cornea already underwent to PK.

Purpose: The aim of this study is to evaluate the efficacy and the graft survival of Descemet stripping endothelial keratoplasty (DSEK) in endothelium dysfunction, in eyes who were underwent previously to perforating keratoplasty (PK).

Methods: This is a retrospective observational study. We enrolled 23 eyes of 23 patients that we underwent to DSEK during the period from 1st january 2010 to 31th december 2013 for endothelium dysfunction after PK.

Results: DSEK restored corneal clearness in all patients in a mean postoperative time of 53±12 days and remained clear at one year of follow up. At the last control (one year), we found a mean hyperopic shift and a mean change of astigmatism of 0.75 D and 1.64 D respectively. One in every three patients needed a rebubbling in the early postoperative. We recorded one case of early failure of the transplant that involved a second DSEK and two cases of rejection that we treated with topical steroid therapy.

Conclusions: DSEK could be considered the treatment of choice for corneal endothelial dysfunction in patients when we presume to restore corneal clearness. This procedure is safe and predictable and offers earlier visual rehabilitation than a second PK.

PROSPECTIVE RANDOMIZED CONTROLLED TRIAL COMPARING 2 DIFFRACTIVE MULTIFOCAL IOLS

V. Maurino
Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom

Purpose: To compare dysphotopsia, spectacles independence, patients satisfaction and visual outcomes after bilateral implantation of the Acri.LISA 366D and the Acrysof Restor SN6AD1 multifocal IOL in a large randomized controlled clinical trial.

Setting: Moorfields Eye Hospital London UK.
Methods: Patient and examiner masked prospective randomized controlled trial. Patients with no significant ocular co-pathology, undergoing bilateral sequential cataract surgery or bilateral sequential refractive lens exchange were randomized to either bilateral implantation with an Acri. LISA 366D multifocal IOL or an Acrysof Restor Sn6AD1 multifocal IOL. The following data were recorded at final follow-up, 4-6 months after surgery: subjective refraction; visual acuity at two luminance levels and three distances; reading acuity at patient's preferred distance; binocular reading speed (MNRead Test); binocular contrast sensitivity (Pelli-Robson); forward light scatter (C-quant); intraoperative and post-operative complications; Patient reported outcomes were assessed with spectacle dependence, visual satisfaction, quality of vision (QoV), visual disability (Catquest-9SF) and dysphotopsia questionnaires.

Results: Of the 188 patients recruited 169 completed the study follow up: 84 in the Acri.LISA arm (A), 85 in the Restor arm (B). Mean age was similar in both groups: 67 (SD 9.1) for A and 68 (SD9.5) for B. 60.6% of patients were female in A and 51.1% in B. Subjective Dysphotopsia was either absent or barely noticeable in 73% of group A and in 76% group B. The percentage of patients finding dysphotopsia annoying or debilitating was similar at 27.4% and 23.2% respectively. Forward light scatter was measured with the C-Quant straylight meter (Oculus Optikgeraete GmbH). The results were similar between the IOL groups (1.15 1.19 logS) with

most subjects' measurements falling within the normal range. Only one patient underwent exchange of multifocal IOL for a monofocal IOL because of unbearable dysphotopsia. Complete spectacles independence was reported by 82% of patients in A and 78%, in B. Overall visual satisfaction was high at 88% (A) and 94% (B). Subjective Refraction results were excellent and similar with median (IQR) spherical equivalent of 0 (-0.25/+0.25) for A and 0.13 (-0.25/+0.38) for B. Only 4 out of the 338 eyes experienced intraoperative complications, none of which lead to poor outcomes.

Conclusions: In our large, randomized, double masked controlled clinical trial both multifocal diffractive IOLS performed well with 80% of patients being completely independent from glasses and 90% being satisfied with the final visual outcome. However, 25% of all patients did complain of dysphotopsia, this was considered a serious visual handicap in 2.4% of cases. Only one patient underwent exchange of multifocal IOL for a monofocal IOL because of unbearable dysphotopsia, the latter procedure was uneventful. There were no statistically significant differences between the two IOLs in any of the outcomes measured.

LONG TERM OUTCOMES OF FEMTOSECOND LASER ASSISTED MUSHROOM CONFIGURATION KERATOPLASTY FOR SEVERE KERATOCONUS

V. Maurino¹, S. Fung¹, F. Aiello^{1,2}
¹Cornea & Cataract Department, Moorfields Eye Hospital, London, United Kingdom,
²Department of Experimental Medicine and Surgery, Ophthalmology Unit, University of Rome 'Tor Vergata', Rome, Italy

Purpose. To evaluate the long-term follow up, best corrected visual acuity (BCVA) and

refractive outcomes of femtosecond laser (FSL) assisted mushroom configuration to treat advanced keratoconus with penetrating keratoplasty (PK) and deep anterior lamellar keratoplasty (DALK)

Methods. Seventeen eyes of seventeen patients (10M; 7F) with stage IV keratoconus underwent customized FSL-assisted mushroom configuration PK and DALK. Mean of age was $31 \pm 9,9$ years (range 21-51). Preoperative mean keratometric (K) value and mean of central corneal thickness were 63.1 ± 7.84 D and 277 ± 104 μ m respectively. Preoperative risk factors include low corneal thickness, previous hydrops and previous laser-assisted in situ keratomileusis. Recipient and donor corneas were treated with 150-KHz FSL (Intralase; Abbott Medical Optics, Santa Ana, CA) to create mushroom-shaped recipient bed and donor. Patients resulting with stable astigmatism greater than 4 cylinder dioptres, underwent arcuate keratotomies, 2 months after suture removal, based on Buzard nomogram with epithelial side mushroom graft edges dissections.

Results. Mean follow up was 27 months (range 4-42 months). Preoperative mean BCVA was 1.24 ± 0.49 LogMAR and mean central corneal thickness was 277 ± 104 μ m. Thirteen patients underwent planned DALK (2 converted to PK). At final follow up, mean BCVA improved to 0.08 ± 0.22 LogMar; mean spherical equivalent refractive error was -2.81 ± 2.87 D and mean cylindrical refractive error was -3.04 ± 2.09 . There were no intraoperative complications.

Conclusion. In our study the creation of customized mushroom-shape corneal graft with FSL appeared to be a safe procedure in patients with advanced keratoconus despite the pre-existing high-risk characteristics. We achieved good outcomes producing comparable or better results to other non-laser manual graft techniques.

ACCELERATED HIGH FLUENCE CONTINUOUS LIGHT (CLAXL) AND PULSED LIGHT (PLAXL) CROSSLINKING FOR PROGRESSIVE KERATOCONUS: MORPHOLOGICAL CHANGES IN VIVO

C. Mazzotta^{1,2}

¹ *AOUS Siena University Hospital, Siena, Italy,*

² *Eye Unit Centro Studi Medici*

C. Mardighian, Mesagne (BR), Italy

Purpose: to assess qualitative micro-morphological corneal changes by confocal microscopy and corneal OCT after accelerated corneal crosslinking (A-CXL) in keratoconic patients.

Study design: prospective non-randomized pilot study

Methods: 20 eyes of 20 patients, aged between 13 and 26 years (mean 22.6 years) underwent A-CXL by the KXL UV-A source (Avedro Inc. Waltham MA, USA). Patients were divided into 4 groups according to different riboflavin solutions and UV A powers. 15 patients underwent epithelium-off A-CXL: 5 (Group 1) by riboflavin 0.1% plus dextran 20% at 12 mW/cm² for 10 min; 5 (Group 2) at 30 mW/cm² for 4 min; 5 (Group 3) by dextran-free riboflavin 0.1% plus HPMC at 30 mW/cm² for 4 min and 5 (Group 4) by riboflavin 0.25% plus EDTA, BAK, TRIS epithelium-on A-CXL for 2 min and 40 sec. Micro-morphological analysis was assessed by in vivo HRT II confocal microscopy and corneal OCT.

Results: Epithelium regenerated into 3 days. Sub-epithelial nerves disappeared after treatment regenerating into 6 months. Epithelium off A-CXL penetration, measured evaluating keratocytes loss at confocal microscopy and demarcation lines at corneal OCT, resulted at 180 μ m on average in the Group 1, 160 μ m in the Group 2, 150 μ m in the Group 3. Epithelium-on A-CXL (Group 4) revealed a penetration at 80 μ m on average.

No endothelial damage was recorded in all groups.

Conclusion: A-CXL shortened conventional CXL procedure under 20 minutes, being well tolerated. Its clinical efficacy needs to be determined in the mid-long term follow-up and in a large cohort of patients.

FEMTOSECOND ASSISTED PENETRANTIG KERATOPLASTY: 5 YEARS FOLLOW UP OF ANVIL PROFILE

*L. Menabuoni*¹, *A. Canovetti*¹, *A. Malandrini*¹,

*I. Lenzetti*¹, *F. Rossi*², *H. Durkee*², *R. Pini*²

¹ *U.O. Oculistica AUSL 4 Prato, Italy,* ² *Istituto di Fisica Applicata CNR, Sesto Fiorentino (FI), Italy*

Purpose: to report a 5 years follow up study of the anvil profile in laser assisted PK.

Methods: 35 eyes underwent anvil PK. An Intralase Femtosecond Laser 150 KHz (iFS150TM, Abbott Medical Optics -AMO, Santa Ana, CA, USA) was used to create anvil shaped penetrating cuts on both donor and recipient corneas. Diode laser welding procedure was performed in order to improve the healing process. All patients were evaluated for corrected distance visual acuity, pachimetry, topography and endothelial cell density. Mathematical modeling of internal and external load was used to compare standard and anvil profiles.

Results: All surgeries were successful and without any intraoperative complications. This profile enables a safe and easy to perform suturing procedure, with an immediate closure effect evidenced during surgery. The large interface between donor and recipient tissue supports the laser welding procedure. A 5 years follow up study showed that the anvil shaped flap provides a better visual acuity recovery and a reduction in the number of rejection. The modeling supported the clinical findings, evidencing a good resistance to

mechanical load.

Conclusions: Use of anvil trephination profile was effective and safe to perform PK. Long term visual results and refractive results are encouraging compared with those of conventional PK studies.

RESULTS OF FEMTOSECOND ASSISTED BOSTON TYPE-I KERATOPROSTHESIS "ONE TOUCH" PROCEDURE

*L. Menabuoni*¹, *A. Malandrini*¹, *A. Canovetti*¹,

*I. Lenzetti*¹, *F. Rossi*², *H. Durkee*², *R. Pini*²

¹ *U.O. AUSL 4 Prato, Italy,* ² *Istituto di Fisica Applicata CNR, Sesto Fiorentino (FI), Italy*

PURPOSE: We report the results of a 2 years follow up of 7 Kpro performed with a femtosecond laser assisted procedure, that avoids the decentration of the visual axis of the Boston type I keratoprosthesis (Kpro), performing two concentric trephinations with femtosecond laser.

METHODS: Two concentric side cuts were performed in a donor cornea, using the 150 kHz Intralase™ FS laser. Within the same applanation procedure, a 8.5 mm diameter anterior side cut was performed, followed by a concentric 3 mm diameter anterior side cut. **RESULTS:** The femtosecond laser assisted double trephination results in a correctly prepared, donor cornea and in a precise match of the prosthesis with the patient tissue. At the end of the surgery the KPro was correctly centered. The technique was performed in seven patients.

CONCLUSION: All the patients did not show any severe complication, such as endophthalmitis. The visual acuity variation was not significant in one case, while in the other 6 cases it was in the range of 3-5/10. In one case we observed weak anterior dislocation of KPRO, without any other complication.

The femtosecond laser enables a safe and easy

procedure to center the KPro in the donor cornea. Moreover, the perfect regularity of the peripheral rim allows an easier suturing to the host, with better distribution of tension.

RELEX, NEW TECHNIQUES IN REFRACTIVE SURGERY: OUR EXPERIENCE

C. Cagini, F. Piccinelli, F. Giusquiani, M. Messina

Clinica Oculistica Dipartimento di Specialità Medico Chirurgiche e Sanità Pubblica - Università degli Studi di Perugia, Italy

Aim of the study: To evaluate the results of the ReLEx (Refractive Lenticule Extraction) in a group of patients undergoing Flex or Smile with a follow-up of 6 months, analyzing the changes in visual acuity, refraction and corneal morphology.

Materials and methods: Were included in the study 13 patients (mean age: 37 ± 6.5 years) and 22 eyes: 12 eyes (refraction: -8.29 ± 1.71 D) underwent Flex and 10 eyes (refraction: -7.88 ± 3.32) underwent Smile. The operation was performed with the Visumax (Zeiss). The patients were followed by assessing the corrected visual acuity and performing a Visante OCT (Zeiss) and a topography Sirius (CSO) 1 week, 1, 3 and 6 months (only for the flex) after the surgery.

Results: The postoperative best corrected visual acuity (BCVA) was greater than or equal to preoperative BCVA in all patients, with a refraction of -0.80 ± 1.01 D 6 months after flex, and -0.67 ± 0.76 D after 3 months of the smile. Pachymetry showed reduction of 96 ± 18 microns in flex eyes, and 101 ± 21 microns in smile eyes. The keratometric values were reduced after surgery.

Conclusion: In our experience, Flex and Smile resulted to be effective refractive surgery techniques. Both provide a good visual recovery with a low residual refractive error, and they cause a reduction of the curvature of the corneal apex.

ROLE OF DENDRITIC CELLS IN CORNEAL EPITHELIAL DEFENSE AGAINST PSEUDOMONAS AERUGINOSA COLONIZATION AND TRAVERSAL IN VIVO

D. Evans¹, M. Metruccio², C. Tam², S. Fleiszig²

¹College of Pharmacy, Touro University

California, Vallejo, USA, ²School of Optometry, University of California, Berkeley, USA

We previously reported that MyD88 plays a critical role in defending the intact murine corneal epithelium against *P. aeruginosa* colonization and traversal in vivo. However, relative role(s) of epithelial or immune cell-expressed MyD88 in defense were unknown. We hypothesized that depletion of dendritic cells in the murine cornea in vivo would compromise epithelial defense against *P. aeruginosa*. Dendritic cell (DC) depletion in the murine cornea was achieved using CD11c-DTR/GFP C57BL/6 mice and intraperitoneal injection with diphtheria toxin (DT) versus a sterile control. After 24 h, one cornea of an anesthetized mouse was rinsed with PBS to wash away tears, blotted with tissue paper to enable bacterial adhesion and inoculated with 5 µl of *P. aeruginosa* PAO1-GFP. After 4 h eyes enucleated, rinsed with PBS, and corneas imaged using reflection confocal microscopy. Z stacks were collected from 3 or more random fields per sample, and Image J used for 3-D image reconstruction, and to quantify bacterial adherence. Blotted corneas of DT treated mice showed a significant increase in *P. aeruginosa* adherence compared to blotted controls ($p < 0.05$). Blotted corneas of DT treated mice also showed partial bacterial traversal of the epithelium. Unblotted and uninoculated corneas of DC depleted mice looked healthy and similar to controls. Data suggest that dendritic cells contribute to corneal epithelial defense against *P. aeruginosa* colonization and traversal in vivo, and thus

contribute to MyD88-mediated epithelial defense. Further studies will elucidate if these data reflect a direct effect of DCs or crosstalk with the corneal epithelial cells.

IMPACT OF CONTACT LENS WEAR ON POST-LENS TEAR FLUID ANTIMICROBIAL ACTIVITY

S. Fleiszig¹, Y. Wu¹, L. Zhu¹, D. Evans^{1,2}

¹University of California, Berkeley, USA, ²Touro University California, College of Pharmacy, Vallejo, USA

Purpose: Contact lens-related keratitis is most common with soft lens extended wear. Since tear fluid contains antimicrobial factors and acts on corneal cells to enhance their resistance to bacteria, lack of tear exchange under soft lenses could relate to that risk. Here, we explored if tear fluid between the corneal surface and the contact lens during wear becomes less able to suppress the growth of *P. aeruginosa* over time. Methods: Daily disposable lenses were worn for various times immediately after removal from the blister pack, or after pre-soaking in sterile saline to remove the packaging solution. Other lenses were not worn, but soaked in collected tear fluid that had been incubated in vitro for 8 h at 35°C. After lenses were removed from the eye or tear fluid, the capacity of *P. aeruginosa* to grow on the lens back surface was examined. Results: Tear fluid on the back of lenses worn for 8 h was less effective at suppressing bacterial growth than lenses worn for only 1 h, but only if re-soaked to remove the packaging solution ($P < 0.01$). Importantly, much more growth occurred on the back of 8 h worn lenses than lenses soaked in tears 8 h that had been collected from non lens wearing eyes ($p < 0.01$). Conclusions: Tear fluid can lose its antimicrobial activity under a hydrogel lens with time, and packaging solutions can affect this. Whether antimicrobial activity is reduced because critical tear components are degraded, excluded, or reduced in production, remains to be elucidated.

PTERYGIUM SURGERY AND SCLERAL CONTACT LENS

A. Montericchio

Clinica Oftalmica Casaverde, Trapani, Italy

Purpose: There are many different techniques for the surgical treatment of pterygium. However, recurrence is the most common complication. The relapse rate normally exceed 20% in various surgical procedures. The transplant of the conjunctiva with the use of fibrin glue and a contact lens with Aloe significantly reduces pterygium relapse. The use of a scleral lens with Aloe, for its pharmacological characteristics, in the post operative improves comfort and speeds healing.

Methods: 86 eyes of 74 patients who underwent surgery with fibrin glue were prospectively studied, 56 of these with the application of a scleral contact lens and 30 without scleral contact lens. Another group of 20 eyes of 16 patients who underwent surgery with sutures were evaluated retrospectively. Data included: age, gender, involved-eye, location, grade and pterygium invasion of the cornea and post-operative complications. Patients were followed for at least 1 year.

Result: Among the 86 eyes underwent surgery with fibrin glue, 4 (4,6 %) had recurrence. The time to recurrence ranged 3-6 months. All recurrences had invasion to the limbus. No eye had a second surgery. Granuloma was recorded in 1 case. Partial detachment of the conjunctival graft occurred in 2 eyes in the group treated without the use of the scleral contact lens showed, while eyes treated with the scleral contact lens showed no complication. In the suture group, 8 eyes (40 %) had recurrence. Postoperative symptoms were assessed. All the patients from the group with suture complained discomfort during blinking. From the group treated with fibrin glue but no scleral contact lens 40% of cases complained discomfort. None of the patients who was treated with the scleral contact lens complained any disturbance.

The recurrence rate was statistically lower in the conjunctival glued graft group compared with the sutured graft group.

Conclusion: The use of fibrin glue as an alternative to sutures in pterygium surgery has been associated with good results and few complications. The application of scleral scleral lens significantly reduces the symptoms in the postoperative course.

PRK AND CONTACT LENS

A. Montericcio

Clinica Oftalmica Casaverde, Trapani, Italy

PURPOSE: Evaluate the efficacy of a scleral lens in Methafilcon A with Aloe, in eyes that underwent photorefractive keratectomy (PRK).

METHODS: 66 patients 132 eyes (116 myopic and 16 hyperopic) treated with bilateral PRK(Visix excimer laser) were enrolled in this prospective, double-masked, comparative study. In one eye of each patient was used a scleral lens (diameter 17,5 mm) with Aloe Methafilcon A (Quotidia Scleral, Ovilens), while in the other was used a corneal lens (diameter 14,3 mm) in Methafilcon A (Quotidia corneal, Ovilens). Size of epithelial defects was evaluated by slit-lamp at 1 one after surgery and then at 3 days 3 post-operative, when the lens has been removed. The assessment of symptoms (pain) was evaluated separately in patients with myopic and hyperopic, and with the use of scleral contact lens with Aloe and corneal lens without Aloe.

RESULTS: Re-epithelialization at day 3 postoperatively was completed in 94 % of the myopic eyes with scleral lens Aloe, compared to 77,5 % of the myopic eyes with corneal lens. In the hyperopic eyes the re-epithelialization at day 3 was complete in 50% with scleral lens Aloe, compared with 12,5 % of eyes with corneal lens. The painful symptoms assessed in 3 degrees (1 = soft or absent, 2 = moderate, 3 = strong). All patients myopic and hyperopic reported a significant reduction of pain in the eye with scleral lens with Aloe.

CONCLUSIONS: Aloe Methafilcon A scleral lenses can be used as an effective bandage after PRK. Aloe Methafilcon A scleral lenses reduces the time for a complete corneal re-epithelialization. Faster, smoother and less painful epithelial healing is provided with Aloe Scleral lens over Corneal lens.

CORNEAL GRAFT APPLICATION IN RECONSTRUCTION OF EYEBALL AFTER REMOVAL OF ANTERIOR OCULAR NEOFORMATIONS

L. Mosca, L. Guccione, L. Mosca, M. Toro, A. Rosati, R. Secondi, M. Blasi, E. Balestrazzi
Catholic University of Sacro Cuore - Department of Ophthalmology, Rome, Italy

Purpose: To evaluate the safety and the effectiveness of tectonic penetrating keratoplasty in surgical removal of anterior ocular neoforations (melanomas of iris and ciliary body, epithelial cysts of anterior chamber (AC), corneal carcinomas).

Methods: Six patients (1M, 5F; mean age: 48.3 yrs +/- 10.43SD) with various anterior ocular neoforations (2 epithelial cysts of AC, 2 cilio-choroidal melanomas, 1 recurrent basal cell carcinoma of the conjunctiva, and 1 recurrent cilio-choroidal melanoma) have been submitted to "en bloc" excision of the neoforations and to eyeball reconstruction with a corneal graft.

All eyes were submitted to complete slit-lamp evaluation, UCVA and BSCVA, ocular ultrasound examination, ocular fundus examination, preoperatively and at each visit during the follow-up (range: 6 to 38 months).

Results: During the follow-up, 5 of 6 eyes resulted healthy, and in the one left, a recurrence of the basal cell carcinoma, six months after surgery, made compulsory an evisceration of the eye. In one case a new penetrating keratoplasty was performed to restore vision.

Conclusions: In case of anterior ocular neoforations various tissues have been used to

restore the eyeball, such as human sclera, bovine pericardium, human amniotic membrane, without lasting results. Corneal graft seems to allow long-lasting anatomical reconstruction of eyeball integrity due to the strength and integration with surrounding tissues.

PENETRATING KERATOPLASTY ASSOCIATED WITH AMNIOTIC MEMBRANE IMPLANT: PERSPECTIVE CASE-CONTROL STUDY OF 30 COMPLEX CASES

A. Passani¹, C. Posarelli¹, M. Figus¹, M. Nardi¹, F. Passani²
¹Oftalmologia, Dipartimento di Neuroscienze, Università di Pisa, Italy, ²U.O. Oculistica, Azienda USL 1, Carrara, Italy

PURPOSE: To explore the ability of amniotic membrane implant to reduce early and mid term complications in patients undergoing penetrating keratoplasty.

MATERIALS AND METHODS: 30 patients undergoing a high risk of failure penetrating keratoplasty were divided into two groups. The first group of 15 patients (Group A) received penetrating keratoplasty alone, the second group of 15 patients received penetrating keratoplasty and an amniotic membrane implant. All patients were evaluated respectively at day 15, 30, 90 and 180 after the graft with a slit-lamp examination and a central corneal thickness with endothelial cell count exam.

RESULTS: In group A the 40% and the 12% of patients showed Descemet folds at 1 and 3 months respectively. In group B the 85% of patients didn't show any folds of the Descemet membrane. The central corneal thickness value at 15 days and at 1, 3 and 6 months after surgery was respectively 699 ± 40 microns, 659 ± 26 microns, 580 ± 19 microns, 522 ± 13 microns in group A while in group B was found to be 662 ± 12 microns at 15 days, 630 ± 14 microns at 1 month, 564 ± 12 microns at 3 months, 518 ± 9 microns at 6 months after surgery. A statistically significant difference

(p<0.05) in corneal central thickness was observed between the two groups at 6 months while no statistically significant difference was observed in term of endothelial cell counts between the two groups.

CONCLUSION: Even if more studies are needed the amniotic membrane transplantation associated with penetrating keratoplasty seems to reduce early and mid term complications of corneal grafts in patients with high risk of keratoplasty failure.

MOLECULAR MARKERS AND CONFOCAL MICROSCOPY OUTCOMES IN CORNEAL SURFACE REGENERATION BY AUTOLOGOUS CULTURES OF LIMBAL CELLS GRAFT

M. Passilongo¹, E. Pedrotti¹, A. Fasolo², G. Parisi¹, R. Mastropasqua¹, S. Ficial¹, P. Di Sarro¹, G. Marchini¹
¹Eye Clinic of Verona, Italy, ²Veneto Eye Bank Foundation, Zelarino (VE), Italy

INTRODUCTION: Corneal epithelial cells guarantee the maintenance of cornea transparency. The corneal limbus contains epithelial stem cells that are essential for the integrity of the ocular surface, by promoting renewal in healthy states and re-epithelialization in wound healing.

PURPOSE: We aim to correlate the clinical outcomes of stem cell graft for the recovery of limbal stem cells function and the phenotypically characterization of the corneal surface, by impression cytology (IC) in respect to confocal microscopy (CM) examination.

METHODS: Patients with unilateral partial or total limbal stem cell deficiency (LSCD) were consecutively enrolled. Diagnosis of LSCD was obtained after clinical evaluation and confirmed by IC (expression of cytokeratin K12 and MUC1; immunofluorescence and laser scanning confocal microscopy as readouts) and by CM examination (HRTIII with Corneal Rostock module, Heidelberg Engineering, Heidelberg, Germany). Patients were evaluated after 12 months from surgery likewise baseline.

RESULTS: Fifteen eyes of 15 patients (13 male and 2 female; mean age 48.8 ± 23.1 years; 12 with total and 3 with partial LSCD) received in vitro-expanded autologous limbal stem cell graft. In 12 patients, a complete epithelization was observed within 3 months after surgery. IC showed at 12 months a complete correspondence with CM and slip lamp examination in 11 patients.

CONCLUSIONS: Limbal stem cells grafts can successfully regenerate the corneal epithelium in patients with LSCD. In vivo CM seems to be equally accurate as IC to diagnose stem cells deficiency and to assess the efficacy of reconstructive intervention.

USE OF METHAFILCON CONTACT LENS FOR MANAGEMENT OF SEVERE KERATOCONJUNCTIVITIS SICCA SECONDARY TO CHRONIC GRAFT-HOST DISEASE

S. Pezzotta¹, E. Antoniazzi¹, C. Delfante², P. Bianchi¹

¹ University Eye Clinic of Pavia, IRCCS Policlinico San Matteo Foundation, Pavia, Italy, ² Immuno-hematology and Transfusion Service, Apheresis and Cell Therapy Unit, IRCCS Policlinico San Matteo Foundation, Pavia, Italy

Keratoconjunctivitis sicca (KCS) occurs in 40-60 % of patients with chronic graft-versus-host-disease (GVHD) after allogeneic hematopoietic cell transplantation. While immunosuppressive therapy is the primary treatment of chronic GVHD, ocular symptoms require measures to improve ocular lubrication, decrease inflammation and maintain mucosal integrity. The local therapies most commonly used to reduce ocular inflammation and corneal lesions (corticosteroids, CsA, autologous serum) in association with artificial tears, demonstrated often poor tolerance and unsatisfactory response. The use of corneal bandage provided by a ionic material lens has been effective in mitigating symptoms and resurfacing corneal erosions in patients with KCS related to

causes other than chronic GVHD. Particularly ionic materials (Methafilcon A and 55% H2O) make these lenses fully compatible with therapeutic eye drops (corticosteroids, antibiotics) and presence of Aloe with its regenerative, antiinflammatory and analgesic effect supports the repair and regeneration of the ocular surface on damaged tissues. We report outcome in a chronic GVHD patient with a severe KCS refractory to standard treatments. Patient reported improvement of ocular symptoms and reduced the use of topical lubricants after lens fitting resulting from decrease evaporation. No serious adverse events or infections attributable to the contact lens occurred. The use of therapeutic lenses could be safe and effective in patients with severe chronic GVHD-related KCS refractory to conventional therapies.

THE SCORE SYSTEM FOR THE PRE-OPERATIVE SCREENING OF REFRACTIVE SURGERY PATIENTS

A. Saad¹, S. Yoo², F. Cabot², G. Kymionis³, A. Canto², D. Gatinel¹

¹ Rothschild Foundation, Paris, France, ² Bascom Palmer Eye Institute, Florida, USA, ³ University of Crete, Greece

Purpose: To assess the level of agreement between 5 refractive surgeons and a new software during refractive surgery evaluation. **Methods:** Retrospective multicenter study including 168 eyes of 84 patients. Three attending ophthalmologists and 2 cornea fellows reviewed 168 Orbscan topographies quadmaps. They rated the maps and determined whether a refractive surgery was advisable or not. Topographic maps were divided in 3 different groups according to the following classification: LASIK or PRK (group 1), PRK only (group 2), No surgery (group 3). Only topographic indices were used to classify the maps. The same maps were also screened by a new corneal ectasia risk detection software combined with the Orbscan: the SCORE analyzer. Multirater kappa statistics

were used to assess inter-rater agreement.

Results: 43.1% and 58.9% of topographic maps were classified in group 1; 37.1% and 2.9% in group 3 by cornea fellows. 75,6% , 46.2% and 55% of topographic maps were classified in group 1 ; 13.2% , 18.7% and 1.8% in group 3 by subspecialized attending ophthalmologists. 57.7% of topographic maps were classified in group 1 and 9.6% in group 3 by the SCORE analyzer. Inter-rater agreement was slight to fair compared with that expected by chance: the overall rate of agreement was 56% and the fixed marginal kappa coefficient was 0.24.

Conclusion: The inter-rater agreement between experienced refractive surgeons with different backgrounds is relatively low. Using the SCORE analyzer as an objective assessment in determining the patient's candidacy for refractive surgery is valuable.

DMEK: LEARNING CURVE AND 18 MONTHS RESULTS OF A FRENCH SERIES

A. Saad, D. Gatinel

Rothschild Foundation, Paris, France

Purpose: To describe the results of the first thirty DMEK cases and compare the first 5 cases to the rest of the series.

Methods: Prospective, observational case series of the first 30 eyes of 28 patients undergoing a DMEK surgery. The endothelio-Descemet graft was manually prepared in the operating room and was inserted in the receiver Anterior Chamber using a dedicated single use injector after removal of the recipient Descemet membrane. All the surgeries were recorded. Surgery and graft preparation time as well as clinical outcomes at 1,3 and 12 and 18 months were compared between the first 5 cases and the rest of the group.

Results: Among the 2 groups clinical outcomes were similar, with 80% of cases achieving a BCVA of 0.1LogMar or better and an average ECD of 1420 cells/mm², at 12 months. Mean graft preparation time (GPT) and mean surgical time (ST) were 48 +/- 20 minutes and 62 +/- 16 mn respectively in the

first 5 cases and 28 +/- 5 minutes and 35 +/- 17 mn in the rest of the group and the differences were statistically significant between the first 5 cases and the rest of the group (p<0.05). In the first 5 cases we were not able to complete the donor preparation in one case and the graft was wrongly oriented in another case.

Conclusions: The learning curve in DMEK did not correlate with clinical outcome. However, ST, GPT and intraoperative complications decline with the surgeon experience.

BIOMETRY ACCURACY AND VISUAL OUTCOMES AFTER THE IMPLANTATION OF A REFRACTIVE MULTIFOCAL IOL IN FEMTOSECOND-LASER ASSISTED AND MANUAL CATARACT SURGERY

F. Sabatino, F. Aiello, V. Maurino
Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom

Aim: To evaluate biometry accuracy in predicting postoperative refractive outcome after the implantation of a refractive multifocal IOL in femtosecond-laser assisted and manual cataract surgery.

Design: Prospective, non-randomized, single-surgeon, comparative case series.

Materials and Methods: Sixty-nine eyes (thirty-five patients) undergoing cataract surgery with an implantation of a refractive multifocal IOL with an inferior segmental near add in our Institute from January 2013 to December 2013 were divided into two groups: thirty-four eyes underwent femtosecond-laser assisted phacoemulsification (femto group), the remainder thirty-five had manual cataract surgery (standard group).

Results: Both groups were comparable for baseline demographic data. No intraoperative complications occurred in each group. Biometry accuracy was $-0,15+/-0,42$ and $-0,03+/-0,42$ (p=0.25), binocular unaided distance visual acuity was $0,02+/-0,64$ logMAR and $0,05+/-0,61$ logMAR (p=0.06). Binocular unaided near visual acuity was $-0,15+/-0,90$

logMAR and -0.21 ± 1.00 logMAR ($p=0.22$).
 Conclusions: Excellent biometry accuracy was achieved with both manual and femtosecond-laser assisted cataract surgery. The implantation of a multifocal refractive IOL with an inferior segmental near add provided good results in terms of binocular unaided distance and near visual acuity in both examined groups. No differences in prediction of refractive outcome were found.

THE USE OF A NOVEL SCLERAL METAPHILCON A SOFT CONTACT LENS AFTER CORNEAL CROSS-LINKING FOR KERATOCONUS

A. Salicone, G. Arienzo, C. Buongiovanni, L. Motta, G. Sepe, C. De Martino, M. Motta
P.O. San Leonardo, Castellammare Di Stabia (NA), Italy

Purpose: To evaluate performance of a novel scleral soft contact lens made of Metaphilcon A with Aloe Hydra System (A.H.S.) in postoperative ocular discomfort after epi-off corneal collagen cross-linking (CXL) for keratoconus.

Methods: 64 patients (36 right eyes, 28 left eyes) underwent CXL procedure from February 2010 to June 2012. Krumeich keratoconus stadiation was the following: 6 patients stage I, 40 patients stage II, 14 patients stage III and 4 patients stage IV. At the end of the procedure, in 32 patients a standard soft contact lens and in other 32 patients a soft Metaphilcon A contact lens was applied. Postoperative ocular discomfort was evaluated with the Ocular Surface Disease Index (OSDI) score 1, 3, 7 days after surgery. In all patients contact lenses were removed 5 days after CXL procedure.

Results: Mean OSDI score at the 1, 3, 7 days follow-up was respectively 37.3, 22.8, 10.5 for patients with standard contact lens while it was respectively 33.1, 17.9, 5.2 in Metaphilcon A contact lens wearers, with a statistically significant comfort improvement in the last group ($p<0.05$).

Conclusions: The use of a scleral soft contact lens made of Metaphilcon A with Aloe Hydra

System (A.H.S.) allows an early relief from ocular discomfort symptoms after epi-off corneal collagen cross-linking (CXL).

COLLAGEN CROSS-LINKING AND CATARACT SURGERY IN PATIENTS WITH KERATOCONUS

L. Spadea, S. Salvatore, E.M. Vingolo
University La Sapienza of Rome, Latina, Italy

Purpose: To evaluate the visual and topographic outcomes in patients with high-myopia, progressive keratoconus and cataract in whom corneal collagen cross-linking (CXL) and phacoemulsification with intraocular lens (IOL) implantation was used.

Methods: Two patients, a 50-year-old man and a 54-year-old woman with high-myopia (Spherical Equivalent greater than $-18D$), cataract and progressive keratoconus in both eyes were evaluated. Both patients were contact lens wearers. Both patients underwent standard CXL and phacoemulsification with IOL implantation in both eyes. Uncorrected distance visual acuity (UDVA) and corrected distance visual acuity (CDVA) and videokeratography pattern were evaluated.

Results: In both patients UDVA and CDVA improved in both eyes. Corneal topography pattern improved in all evaluated eyes. Patients were satisfied with the visual improvement and happy with glasses.

Conclusion: Cataract surgery after corneal collagen cross-linking in high-myopic patients reported no complications and can improve UDVA, CDVA and videokeratography pattern in patients with moderate amounts of progressive KC and cataract.

ENDOTHELIAL CELL LOSS AFTER DESCemet STRIPPING AND AUTOMATED ENDOTHELIAL KERATOPLASTY (DSAEK): 6-YEAR FOLLOW-UP

M. Salvetat, F. Miani, M. Zeppieri, P. Brusini
S.M. Misericordia Hospital, Udine, Italy

Purpose: To evaluate the endothelial cell density (ECD) loss after Descemet stripping

and automated endothelial keratoplasty (DSAEK) during a six-year follow-up.

Methods: This prospective noncomparative case series study included 47 eyes of 45 subjects (mean age 75 ± 10 years) undergoing DSAEK for Fuchs endothelial dystrophy or pseudophakic bullous keratopathy, with (21 eyes) or without simultaneous cataract extraction and intraocular lens (IOL) implantation. Pre-operative ECD was obtained from the eye bank charts; post-operative ECD was assessed using a non-contact specular microscope every 6 months during a 6-year follow-up. Multivariate analysis of variance was used to identify factors associated with postoperative donor ECD loss.

Results: The mean donor ECD significantly decreased from 2690 ± 140 cells/mm² pre- to 1412 ± 491 cells/mm², 1246 ± 449 cells/mm², 1100 ± 370 cells/mm², 721 ± 316 cells/mm², 659 ± 266 cells/mm² respectively 6, 12, 24, 48 and 72 months post-operatively. ECD loss was significantly greater in eyes showing post-operative secondary glaucoma or those requiring repositioning of the dislocated graft.

Conclusions: The donor ECD after DSAEK decrease was approximately 45% at 6 months, and 52%, 64% and 71% at 2, 4 and 6 years after surgery, respectively. It appeared significantly related to graft dislocation or secondary glaucoma.

CORNEAL GRAFT PATCH TO REPAIR BAERVELDT VALVE SILICONE TUBE AND SCLERAL BUCKLING EXTRUSIONS

E. Sarnicola¹, C. Sarnicola¹, V. Sarnicola²
¹ *Siena, Italy*, ² *Grosseto, Italy*

PURPOSE: To evaluate the efficacy of corneal and sclero-corneal graft used to cover Baerveldt valve silicone tube or scleral buckling extrusions. SETTING: Misericordia Hospital, Grosseto, Italy.

METHODS: Retrospective, consecutive, non comparative cases series report about 12 patients with conjunctival erosion, related with Baerveldt valve silicone tube extrusion in 8 cases and scleral buckling extrusion in 4

cases. All cases of scleral buckling extrusion were treated with sclero-corneal graft patch. The movable conjunctiva was opened in flaps by Westcott scissors, as close as possible to the extrusion area. The conjunctival proliferation underlying the devices was removed. A sclero-corneal graft patch, denuded from corneal epithelium and endothelium, was then used to cover the scleral buckling extrusion. The graft patch was placed on the device with the endothelial side facing the sclera. Interrupted vicryl 6.0 suture and fibrin glue were used between donor and recipient, and between the conjunctival flaps and the graft patch. The repair of the glaucoma valve's tube extrusion needed less graft tissue. The same surgical procedure was performed, but using just stromal corneal graft patch. The corneal graft patch, denuded from its epithelium, was reduced in its thickness to 400 μ by using an artificial anterior chamber. Local steroids and antibiotics were used as postoperative treatment.

RESULTS: Corneal and sclero-corneal graft patches were vital at 1 month, 3 months and 6 months follow-up. The conjunctival flaps have progressively covered the whole grafted tissue at 3 months follow-up in 7 cases and at 6 months follow-up in 5 cases. No complications were recorded.

CONCLUSIONS: Corneal and sclero-corneal graft patch seem to be a good option for the treatment of scleral buckling and Baerveldt valve silicon tube extrusions. However a larger number of cases and a longer follow-up are required to evaluate the actual success rate and possible late complications.

OCULAR BANDAGE WITH THERAPEUTIC LAC AFTER CATARACT SURGERY WITH OR WITHOUT FEMTOSECOND-LASER

C. Savaresi, G. Mandelli, S. Toma
Casa di Cura San Pio X, Milan, Italy

PURPOSE: Analysis of the postoperative course after cataract surgery with the application of therapeutics LAC in combination with

Dexamethasone + Tobramycin eye drops. Check the closure of the corneal tunnel and the absence of Descemet's membrane folds and observation of topographic change given by therapeutics LAC.

METHODS: We undergo to cataract surgery with IOL implantation 50 eyes of 50 cataract patients. In the end of the intervention was done an ocular bandage with therapeutic corneal contact lens.

RESULTS: The Follow Up was performed at 1, 7 and 30 days to verify the post-operatively course. The instrumental diagnostics pre and postoperative included the examination of the anterior segment with OCT, the topoaberrometry and corneal biomicroscopy to verify the integrity and the number of endothelial cells before and after cataract surgery and subsequent application of therapeutic LAC in association to Dexamethasone + Tobramycin eye drops in single dose format.

CONCLUSIONS: The use of therapeutic LAC in combination with Dexamethasone + Tobramycin eye drops after cataract surgery with IOL implantation in the capsular bag, allows the patient to have a more rapid and comfortable visual recovery than the application of postoperative ocular occlusive buffer. For all patients there were no adverse reactions to the application of therapeutic LAC with the association of specific single-dose eye drops.

RECOVERY OF CORNEAL SENSITIVITY AFTER EPI-OFF AND EPI-ON COLLAGEN CROSSLINKING IN KERATOCONUS

L. Spadea, S. Salvatore, E.M. Vingolo
University La Sapienza of Rome, Latina, Italy

Purpose: To evaluate the changes in corneal sensitivity after corneal cross-linking (CXL) with de-epithelialization (Epi-off) and without de-epithelialization (Epi-on) in patients with keratoconus.

Methods: Fifty patients with progressive

keratoconus (50 eyes) underwent CXL. On the basis of the corneal pachymetry at the area of topographic steepening the eyes were divided in 2 groups: more than 400 micron Epi-off group (25 eyes) and less than 400 micron Epi-on group (25 eyes). Corneal sensitivity was measured with a Cochet-Bonnet esthesiometer before treatment and 1 and 7 days and 1, 3, 6, 9 and 12 months after treatment.

Results: In Epi-off group corneal sensitivity was significantly reduced up to 3 months after CXL, and gradually recovered to normal levels. In Epi-on group corneal sensitivity was significantly decreased up to 7 days but was not significantly different from pre-operative values at other measurement times. Corneal sensitivity at 7 days after Epi-off CXL treatment was significantly lower than that observed after Epi-on CXL treatment.

Conclusion: Both Epi-off and Epi-on CXL in keratoconus only transiently affects corneal innervation and sensitivity with a complete recovery during the follow-up. The corneal hypoesthesia was more pronounced in Epi-off technique and the recovery time was faster in Epi-on CXL.

CORNEAL STATUS AFTER VITRECTOMY

G. Tosi, D. Marigliani, T. Bacci
Department of Medicine, Surgery and Neuroscience, University of Siena, Italy

Purpose: To analyze the status of the cornea after vitrectomy performed for various ocular conditions including retinal detachment, proliferative vitreoretinopathy and proliferative diabetic retinopathy.

Methods: The medical records of patients who underwent vitrectomy for retinal detachment, proliferative vitreoretinopathy and proliferative diabetic retinopathy were analyzed. Postoperative corneal epithelial defects, need for eye patching, bandage contact lenses application or topical steroids

discontinuation as well as final corneal scarring were recorded.

Results: Postoperative corneal epithelial defects were present in 42% of patients. Among these patients corneal reepithelialization was obtained in 70 % of patients at day 7, in 12 % of patients at day 14 after eye patching, in 6 and 4 % of patients at 3 and 4 weeks respectively after bandage contact lenses application, in 10 % of patients at 4 weeks after bandage contact lenses application and topical steroids discontinuation. Even though reepithelialization was achieved in every patient, 8 % of patients experienced recurrent epithelial defect and 8 % of patients showed corneal haze.

Conclusions: Despite the high percentage of positive retinal anatomical outcome, postoperative corneal alterations may represent a significant negative factor for the final functional outcome.

REFRACTIVE AND TOPOGRAPHIC RESULTS OF TRANSEPITHELIAL CORNEAL COLLAGEN CROSS-LINKING (TE-CXL) BY IONTOPHORESIS IN YOUNG ADULTS

S. Troisi¹, R. Forte², P. Vele¹, E. Chiariello Vecchio², A. Greco¹, A. Magli²
¹ *Department of Ophthalmology - Salerno Hospital University, Salerno, Italy,*
² *Department of Pediatric Ophthalmology - Salerno Hospital University, Salerno, Italy*

Purpose. To evaluate the effectiveness of Trans-epithelial Cross Linking by iontophoresis of riboflavin 0.1% in young adults with a follow-up of 6 months.

Methods. We enrolled all consecutive patients with keratoconus mean age 22,4 (range 18-26 years) visited at Salerno Hospital University between February and June 2013. Inclusion criteria were topographical and functional progression of keratoconus over the last three months. The riboflavin solution was administered by iontophoresis for 10 minutes in

total, without epithelial debridement, afterwards surface UV-A irradiation (370 nm, 10 mW/cm²) was performed for 9 minutes.

Results. Sixteen patients (9 males, 7 females, mean age 22.8 ± 2.4 years, 20 eyes) were included in the study. After six months a stabilization of visual acuity (from 0.47 ± 0.4 to 0.54 ± 0.5 LogMAR) and keratometric values (from 47.8 ± 1.24 to 46.9 ± 1.32D) were observed in 15 eyes, while no significant worsening occurred in 5 eyes. No patient developed corneal haze or other complications.

Conclusions. CXL by iontophoresis could become an effective method to reduce the duration of the procedure and increase comfort for young patients. Further long-term studies are needed to evaluate the efficacy and spectrum of risk.

THE FIRST REPORT OF FABRY DISEASE IN SALERNO PROVINCE: DIAGNOSTIC ROLE AND EVOLUTION OF THE OCULAR MANIFESTATIONS

S. Troisi, V. Turco, M. Tenuta, C. Rocco, S. Cirillo
Salerno Hospital University, Salerno, Italy

PURPOSE: Fabry is a rare, under-diagnosed, X-linked lysosomal-storage-disease, caused by an inherited enzyme α-galactosidase-A defect, presenting frequently typical ocular manifestations. The aim of this study is to describe ophthalmological features detected in the first patient with Fabry-disease seen in Salerno province.

METHODS: A 50 years old male patient, was evaluated for visual acuity assessment. The initial evaluation was made by slit-lamp examination. The evidence of cornea verticillata, in a patient never treated with amiodarone, lead to suspect Fabry disease. The patient performed computerized visual-field, tonometry, fundus oculi examination, BUT-test, Schirmer-test, Pentacam and Confscan examination, retinal-fluorescein-angiography and macular-OCT. The

patient also performed cardiac, neurological, dermatological and renal evaluation and laboratory tests.

RESULTS: Cornea verticillata, dry-eye, conjunctival and retinal vessel tortuosity and asymmetrical spoke-like cataract were recorded in this patient. Echocardiographic TT-exam identified hallmarks of Fabry's disease cardiomyopathy. The alpha-galactosidase activity level was zero. Typical Mutations of Fabry disease in the GLA-gene were detected. After 12-months of systemic therapy with enzyme α-galactosidase-A we observed an reduction of dry-eye and corneal opacities.

CONCLUSIONS: Cornea verticillata and spoke-like-cataract are ocular manifestations identifiable during a routine eye examination. They are the most characteristic ophthalmological manifestations of ophthalmic abnormality in Fabry's disease. Vessel tortuosity was more frequently observed in patients with a higher severity score and greater impairment of renal and cardiac function, suggesting that it may be associated with a more severe disease. Dry-eye and cornea verticillata could improved in patients whom undergoing systemic therapy for Fabry disease.

THE OCULAR SURFACE IN MEDICALLY CONTROLLED GLAUCOMA: AN IN VIVO CONFOCAL STUDY

E. Villani ¹, E. Garoli ², V. Canton ², F. Magnani ², P. Nucci ¹, R. Ratiglia ²

¹ Department of Clinical Sciences and Community Health, University of Milan. Eye Clinic San Giuseppe Hospital, Milan, Italy, ²

Department of Clinical Sciences and Community Health, University of Milan. Eye Clinic Fnd IRCCS Ca' Granda Policlinico, Milan, Italy

Purpose: To study, using in vivo laser scanning confocal microscopy (LSCM), the ocular surface in patients treated with anti-glaucoma medications (aGM).

Methods: We recruited 100 consecutive Caucasian patients with medically-controlled

primary open angle glaucoma (MCPOAG) and 50 untreated healthy controls, referred for family history of glaucoma or optic disc cupping. Exclusion criteria were history of ocular or systemic diseases or conditions or treatments (except aGM) with known effects on the ocular surface, history of dry eye prior to glaucoma diagnosis, and treatment variations during the 18 months prior to enrolment. Each participant completed an Ocular-Surface-Disease-Index questionnaire and underwent clinical and LSCM examination of the ocular surface: cornea, bulbar and tarsal conjunctiva, meibomian glands, and eyelid margin.

Results: LSCM showed sub-basal increased tortuosity of nerves and density of dendritic cells (P<0.01, t-test) in MCPOAG patients. Comparing Benzalkonium Chloride (BAK)-preserved (n=72) to BAK-free (n=28) drugs, we found a BAK-related reduction of Schirmer test values (P<0.01). Sub-groups analyses, based on the type (β-blockers(n=36) vs prostaglandin analogues(n=14) vs associations(n=50)) and on the number (1 drug(n=50) vs 2 drugs(n=36) vs 3 or more drugs(n=14)) of aGM, showed differences in conjunctival staining (P<0.05, ANOVA), in nerves length/frame and tortuosity, and in dendritic cells density (P<0.001). All the post-hoc analyses showed the most significant cut-off to be between associations and single drug therapies.

Conclusions: In patients with good compliance to therapy and no dry eye history, the ocular surface changes due to aGM seem to be mostly sub-clinical and related to the number of daily taken drugs.

DRY EYE RESPONSE TO TOPICAL STEROIDS: AN IN VIVO CONFOCAL STUDY

E. Villani ¹, E. Garoli ², V. Canton ², V. Termine ¹, R. Ratiglia ², P. Nucci ¹

¹ Department of Clinical Sciences and Community Health, University of Milan. Eye Clinic San Giuseppe Hospital, Milan, Italy, ²

Department of Clinical Sciences and Community Health, University of Milan. Eye Clinic Fnd. IRCCS Ca' Granda Policlinico, Milan, Italy

Purpose: To evaluate, in moderate-to-severe dry eye patients treated with topical corticosteroids, the in vivo laser scanning confocal microscopy (LSCM) corneal findings and their association with clinical response to treatment.

Methods: We consecutively recruited 50 patients with moderate-to-severe dry eye. Exclusion criteria were any systemic or ocular comorbidity or treatment (except artificial tears) with known effect on the ocular surface. Baseline and follow-up (30±2 days after baseline) visits included Ocular-Surface-Disease-Index (OSDI) questionnaire, full eye exam and LSCM study of central cornea (including epithelial and stromal cells density, sub-basal dendritic cells density (DCD), and sub-basal nerves length and tortuosity). All patients were treated with loteprednol etabonate q.i.d. for 4 weeks. We compared clinical and confocal data obtained before and after treatment and looked for associations between baseline data and steroids-induced changes. Based on the previously validated OSDI Minimal-Clinically-Important-Difference, we re-analyzed the baseline findings comparing steroids-responders to non-responders.

Results: OSDI score and DCD significantly decreased after treatment (41.8±20.9 vs 52.3±20.7, P<0.01 and 64.3±45 vs 138.4±106.7cells/mm2, P<0.01, respectively). DCD baseline values showed significant correlations with both OSDI and DCD steroid-related changes (r=0.44, P<0.05 and r=0.70, P<0.01, respectively). Baseline mean DCD was significantly higher in responders to steroids compared to not-responders (164.1±109.2 vs 110.8±45.5; P<0.05).

Conclusions: In vivo confocal evaluation of DCD is effective in detecting steroid-related corneal inflammation changes. DCD baseline values are associated to symptoms improvement

after treatment. These promising preliminary data suggest the need for future studies, designed to test the predictive value of DCD for clinical response to steroids treatment.

NEW TECHNIQUE TO GET A MORE RELIABLE BUBBLE DURING DALK SURGERY

P. Vinciguerra

Humanitas, Research Hospital, Rozzano (Milan), Italy

The phase of initial partial trephination often complicates insertion of the dissection spatula at the proper depth. As recently reported in the literature, depth of spatular insertion is the key for obtaining a successful bubble. After initial partial trephination at a Pentacam-based pre-defined depth, we perform an incision at the bottom of trephination with 15° blade angled at 45°. This in order to block the position of spatular insertion.

HOW TO GET A PROLATE CORNEA AFTER DALK SURGERY

P. Vinciguerra

Humanitas, Research Hospital, Rozzano (Milan), Italy

Suturing technique and graft diameter is the key factor to obtain a prolate cornea after DALK. Prolate cornea prevent from spherical aberration and as consequence low contrast sensitivity. Prolate cornea is the sign of the perfect match between the two tissue.

SPEAKERS, PANELISTS, PRESIDENTS
AND MODERATORS

Agresta Carmine, Vallo della Lucania (SA) ITALY
Alessio Giovanni, Bari ITALY
Angeloni Marco, Turin ITALY
Aquavella James, Rochester USA
Belin Michael W., Albany USA
Billi Bernardo, Rome ITALY
Bohm Elisabetta, Mestre (VE) ITALY
Bonavolontà Giulio, Naples ITALY
Buzzonecchi Luca, Rome ITALY
Cantera Emilia, Rome ITALY
Caporossi Aldo, Rome ITALY
Caprioglio Giancarlo, Venice ITALY
Caretto Luigi, Padua ITALY
Cennamo Giovanni, Naples ITALY
Cerulli Luciano, Rome ITALY
Colby Kathryn, Boston USA
Cusati Giorgio, Benevento ITALY
De Rosa Pasquale, Naples ITALY
Dorin Giorgio, Cupertino USA
Fogla Rajesh, Hyderabad INDIA
Forlini Cesare, Ravenna ITALY
Fung Simon, London UK
Gabbriellini Giovanna, Pisa ITALY
Garzzone Federico, Rome ITALY
Greco Alfredo, Salerno ITALY
Güell José L., Barcelona SPAIN
Joo Choun-Ki, Seoul SOUTH KOREA
Magli Adriano, Salerno ITALY

Marchini Giorgio, Verona ITALY
Massaro-Giordano Giacomina, Philadelphia USA
Mastropasqua Leonardo, Chieti-Pescara ITALY
Maurino Vincenzo, London UK
Mautone Luigi, Vallo della Lucania (SA), ITALY
Mazzolani Fabio, Milan ITALY
Mazzotta Cosimo, Siena ITALY
Mencucci Rita, Florence ITALY
Menicacci Felice, Siena ITALY
Mocellin Antonio, Lecce ITALY
Montericcio Alberto, Trapani ITALY
Montrone Francesco, Bari ITALY
Motolese Edoardo, Siena ITALY
Mularoni Alessandro, Bologna ITALY
Napoli Vincenzo, Salerno ITALY
Nubile Mario, Chieti-Pescara ITALY
Orfeo Vincenzo, Naples ITALY
Passani Franco, Carrara ITALY
Pedrotti Emilio, Verona ITALY
Polito Ennio, Siena ITALY
Ponzin Diego, Mestre (VE) ITALY
Rama Paolo, Milan ITALY
Rao Vincenzo, Caserta ITALY
Romano Ferdinando, Caserta ITALY
Rosa Nicola, Salerno ITALY
Rosetta Pietro, Milan ITALY

Rubino Pierangela, Parma ITALY
Santacroce Nicola, Cosenza ITALY
Santoni Gerardo, Terni ITALY
Sarnicola Enrica, Siena ITALY
Sarnicola Vincenzo, Grosseto ITALY
Savastano Silvio, Cassino (FR) ITALY
Sbordone Sandro, Naples ITALY
Scialdone Antonio, Milan ITALY
Simonelli Francesca, Naples ITALY
Sinisi Gemma Fausta, Venosa (PZ), ITALY
Spadea Leopoldo, Rome ITALY
Swarup Rishi, Hyderabad INDIA
Tavolato Marco, Padua ITALY
Toro Ibañez Patricia, Grosseto ITALY
Tosi Gian Marco, Siena ITALY
Traversi Claudio, Siena ITALY
Turco Vito Salerno, ITALY
Vinciguerra Paolo, Milan ITALY

ABSTRACT PRESENTERS

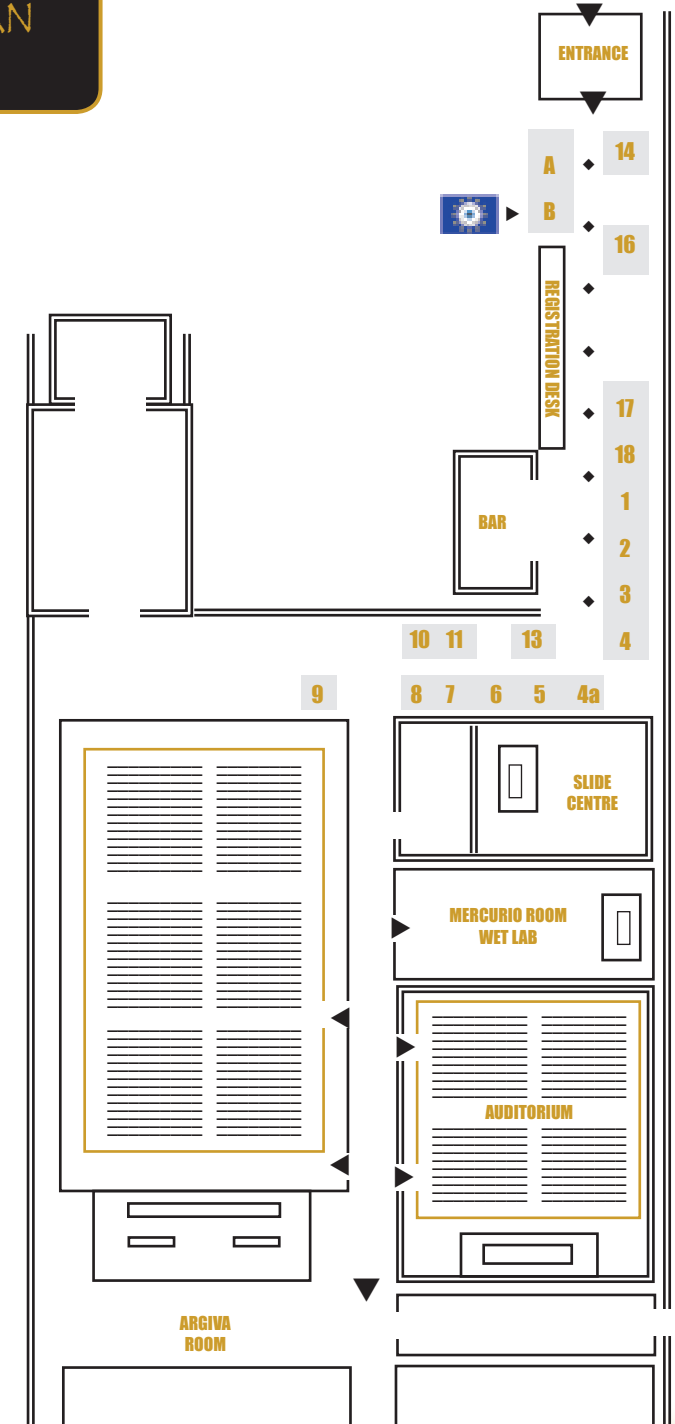
Aiello Francesco, Rome ITALY
Alqahtani Abdulmalik, Riyadh SAUDI ARABIA
Badala Federico, Milan ITALY
Bagaglia Simone Alex, Siena ITALY
Balestrazzi Alessandra, Rome ITALY
Bartolini Anna, Terni ITALY
Capasso Luigi, Naples ITALY
Carbonara Claudio, Rome ITALY
Chimenti Gennaro, Siena ITALY
Citroni Giovanni, Brescia ITALY

Ditzen Klaus, Weinheim GERMANY
El Ballouz Haytham, Beirut LEBANON
Forlini Matteo, Ravenna ITALY
Fortunato Michele, Rome ITALY
Lapenna Lucia, Bari ITALY
Latronico Maria Eugenia, Siena ITALY
Martone Gianluca, Siena ITALY
Mastropasqua Rodolfo, Verona ITALY
Menabuoni Luca, Prato ITALY
Messina Marco, Perugia ITALY
Metrucchio Matteo, Berkeley USA
Mosca Luigi, Rome ITALY
Passilongo Mattia, Verona ITALY
Pezzotta Sara, Pavia ITALY
Saad Alain, Paris FRANCE
Sabatino Francesco, Rome ITALY
Salicone Alberto, Castellammare di Stabia (NA) ITALY
Salvatore Serena, Rome ITALY
Salvetat Maria Letizia, Udine ITALY
Savaresi Claudio, Milan ITALY
Troisi Salvatore, Salerno ITALY
Villani Edoardo, Milan ITALY

SICSSO wishes to express its gratitude to the following companies, which, through their generosity, helped to organize the XIII Congress 2014:

AESSE CHIRURGICA	
ALFA INSTRUMENTS	
ALFA INTES	stand n. 2
ALLERGAN	
AMB Strumenti Oftalmici	stand n. 7
BAUSCH+LOMB	stand n. 6
C.B. MEDICAL	stand n. 18
CARL ZEISS	
CSO	stand n. 10
E. JANACH	stand n. 16
EYELAB	stand n. 4a
FGE - Fabiano Gruppo Editoriale	stand A
KATENA-OFTALMEDICA	stand n. 11
MEDICAL SUPPORT MANAGEMENT	stand n. 5
MEDINOVA	
NIDEK MEDICAL	stand n. 13
OOGROUP	stand n. 1
SIFI MEDTECH	stand n. 3
SIFI SPA	stand n. 4
THEA FARMA	stand n. 8-9
TOPCON	stand n. 17
VISUFARMA	stand n. 14

FLOORPLAN





NOTES

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....