

Decision making in lamellar keratoplasty

Mohamed Bahgat Goweida
FRCOphth, FRCS(Glasg), PhD
Consultant Cornea and External Eye Diseases
Assistant Professor, Alexandria University



Frank Larkin

MD, FRCPI, FRCOphth
Consultant ophthalmologist, Cornea & External Diseases service,
Moorfields Eye Hospital & Honorary Associate Professor, UCL
Institute of Ophthalmology, London.



Vincenzo Sarnicola

Director of Sarnicola Eye Center in Italy
Professor of Ophthalmology at the University of Siena (Italy)
Visiting Professor at: Duke University (Durham, USA), Medipol University
(Istanbul, Turkey), Tbilisi State Medical University (Georgia).



Tamer Elraggal

FRCSEd, PhD
Professor of Ophthalmology, Ain Shams University
Consultant Cornea and External Eye Diseases, WEH, Cairo



Alaa Ghaith, MD

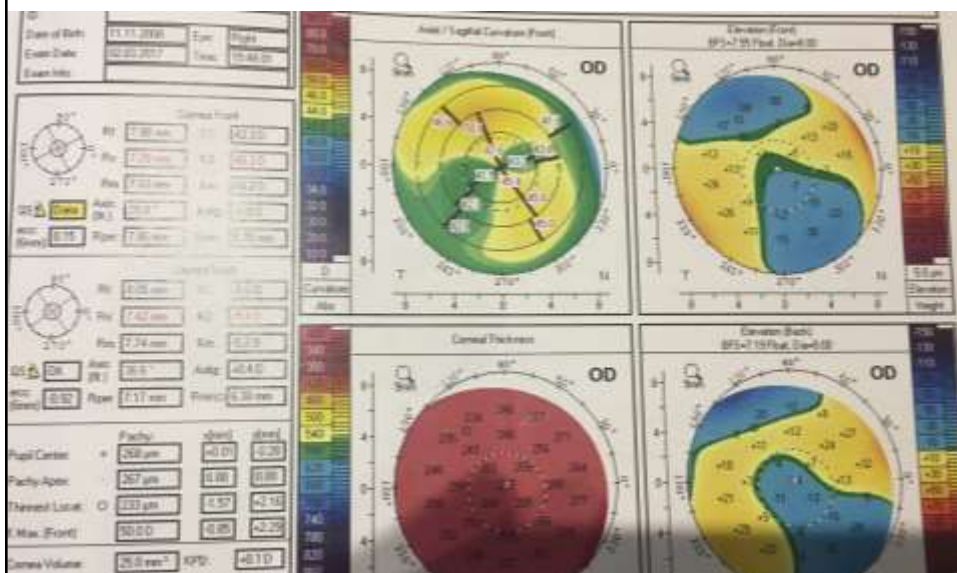
Professor of Ophthalmology, Faculty of Medicine, Alexandria University
Head of Cornea service, Alexandria Main University Hospital
Medical Director of Alex I-care Center

What Should I do?

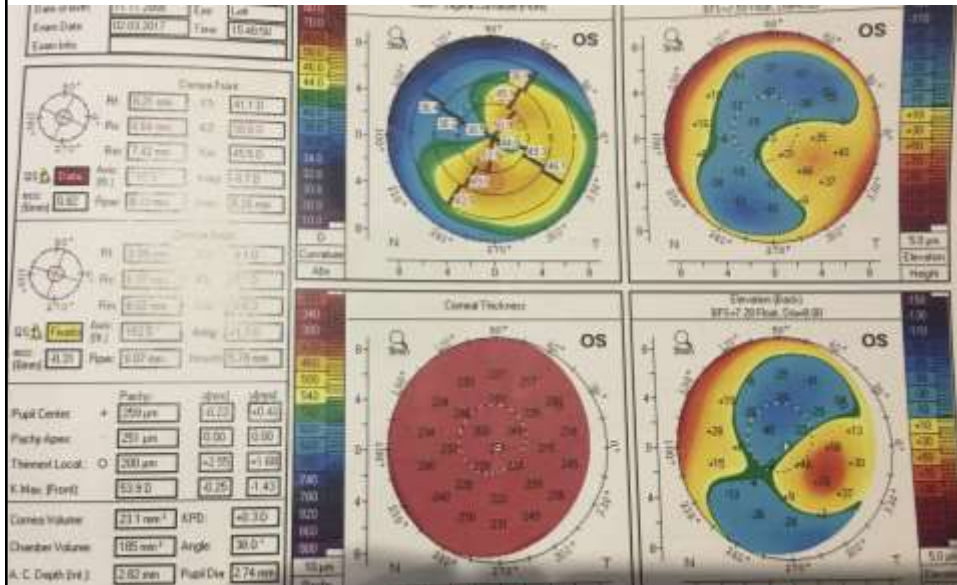
Case presentation 1

- 7 years old girl presented to me complaining of diminution of vision in the left eye
- Bilateral clear cornea
- Fundus free
- Refraction : RE: -5.00/ -3.00 axis 15, LE: ??
- BSCVA: RE: 0.5, LE: 0.05

Pentacam right eye



Pentacam left eye



Management

- Collagen cross linking was done in the left eye
- Close follow up every 3 months
- Fitting of RGP
- BCVA: RE: 0.7, LE: 0.5

2019

Right eye:

K1: 42.3 → 42.7

K2: 46.3 → 47.8

Kmax: 50 → 51.2

Cyl: 4 → 5.1

BCVA: 0.7

Left eye (cross linked):

K1: 41.1 → 38.7

K2: 50.8 → 51.1

Kmax: 53.9 → 56.2

Cyl: 8.7 → 12.4

BCVA: 0.5

RGP intolerant

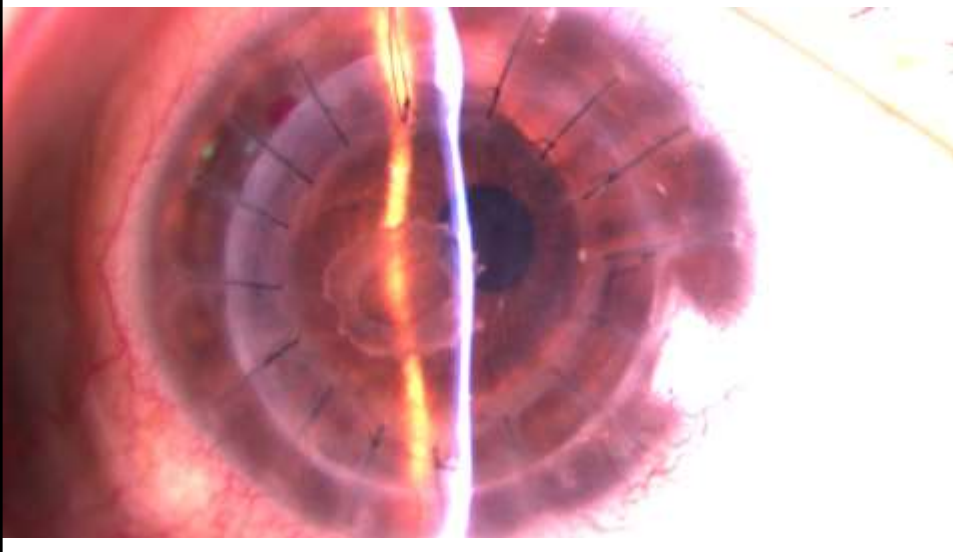
What should I do?

- Cross linking
- Lamellar keratoplasty
- Penetrating keratoplasty
- Follow up (till when?)
- What's your preferred technique in KG?

Case presentation 2

- 66 year old female patient
- Lasik → 15 years
- Bilateral phaco → 3 years
- RA → 10 years (poorly controlled)
- Severe dry eye, epithelial defects, perforation, patch graft in one eye
- Control of RA, punctal occlusion, biological treatment
- PKP was planned, uneventful surgery, smooth postoperative with total epithelial healing

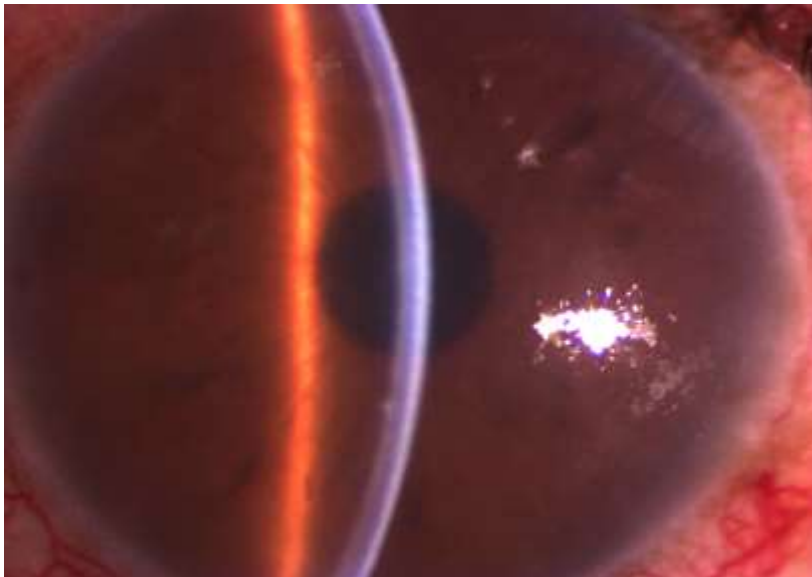
What should I do?



Case presentation 3

- 38 years old male healthy patient, presented with diminution of vision in the right since 3 months
- The left eye was lost due to trauma during childhood

Case presentation 3



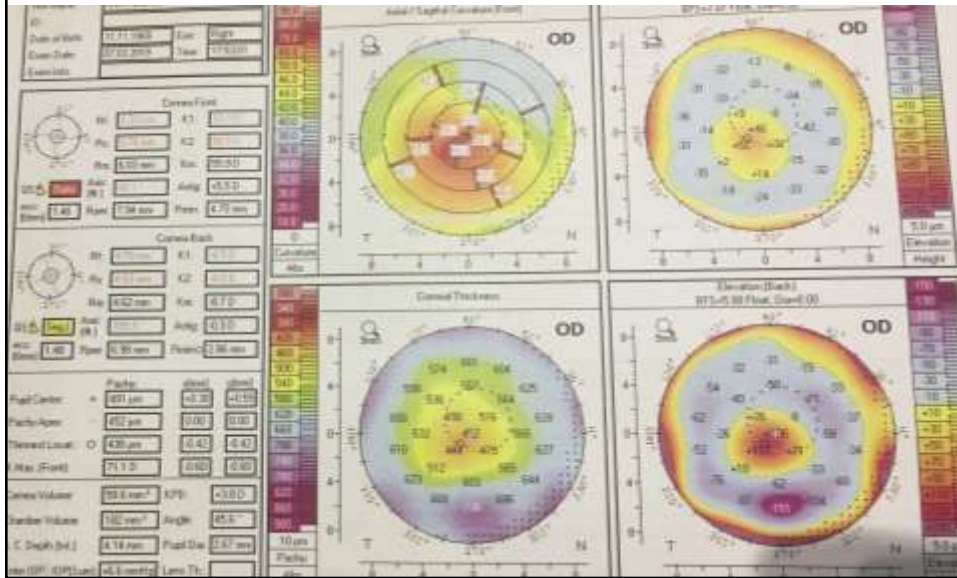
What should I do?

- Medical treatment
- Endothelial KP (DMEK or DSAEK)
- PKP
- Triple EK

Case presentation 4

- 42 year old healthy female, diagnosed as KC 15 years ago
- Bilateral CLE since 7 years without CXL, bilateral yag
- Left vitrectomy (macular hole) with poor results (BCVA: 0.2)
- Right eye: Keratoconus
- BSCVA: 0.15 (-1.00 /-8.00 axis 100)
- BCVA (RGP): 0.6
- RGP intolerance

Case presentation 4



What should I do?

- DALK (how to manage the resulting error)
- PKP and IOL exchange
- ICR

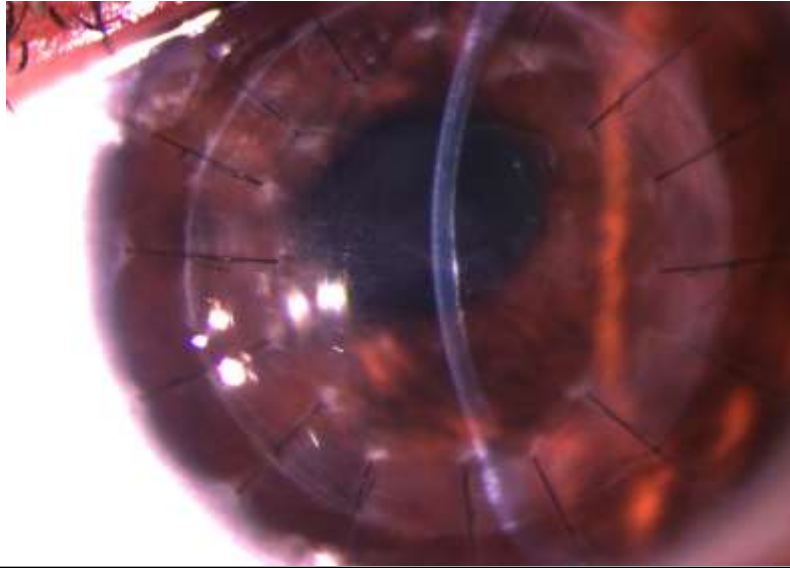
What's your opinion about CLE as a refractive correction of KC?

Common unanswered questions

Post hydrops scar



PKP

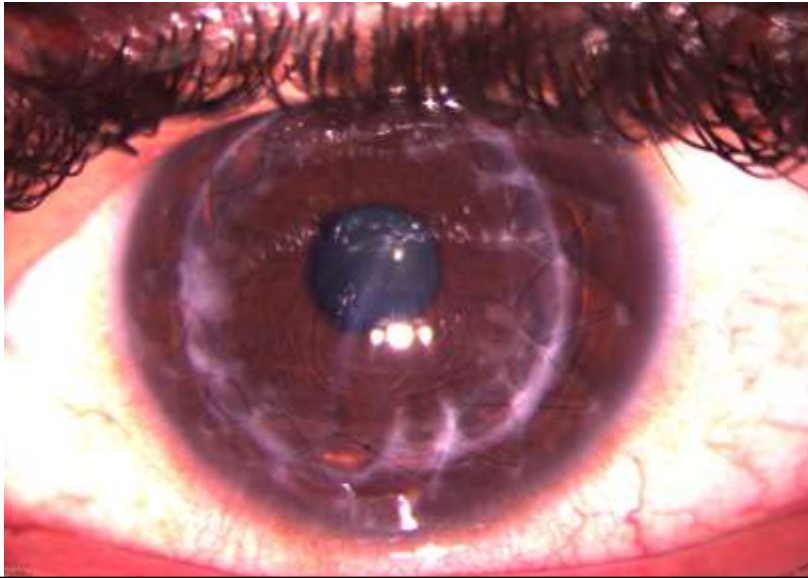


Post hydrops scar

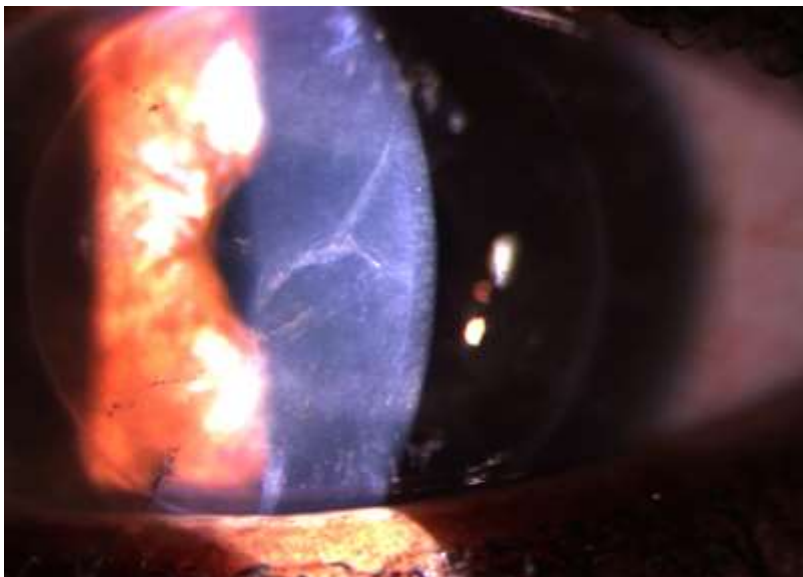
Problems of PKP in KC

- Young age of individuals
- Poor long-term graft survival
- Poor quality of grafts
- Proved greater risk of endothelial graft rejection after hydrops

DALK without perforation



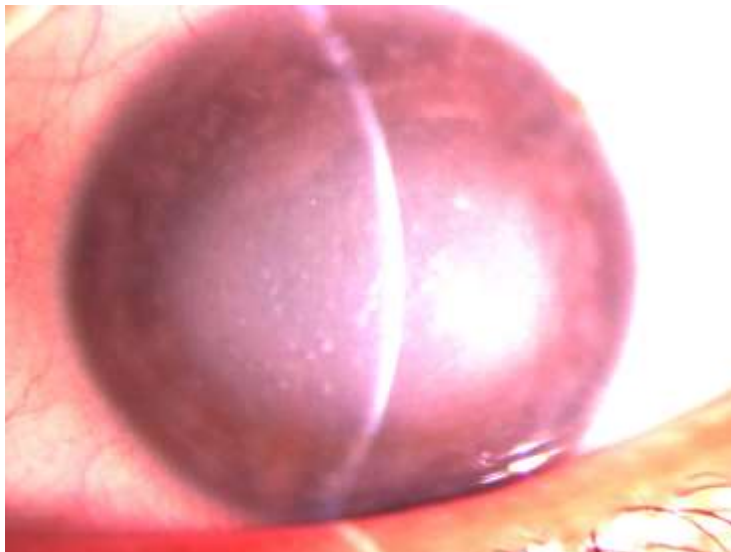
DALK exposing the tear



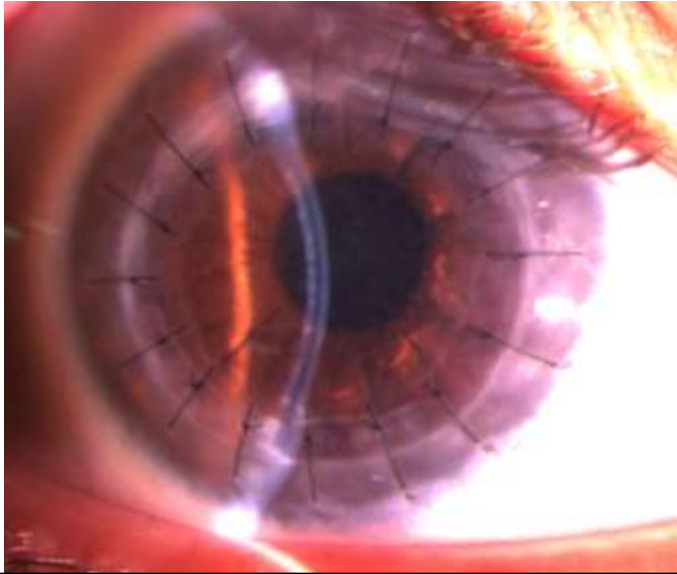
Macular dystrophy

- Bilateral, symmetric, slowly progressive AR corneal dystrophy
- Progressive visual impairment that occurs between 10 and 30 years of age
- Grayish-white irregular opacities, from limbus to limbus with no intervening areas of clear cornea
- Glycosaminoglycan deposits in all layers of cornea including epithelium, stroma, and DM

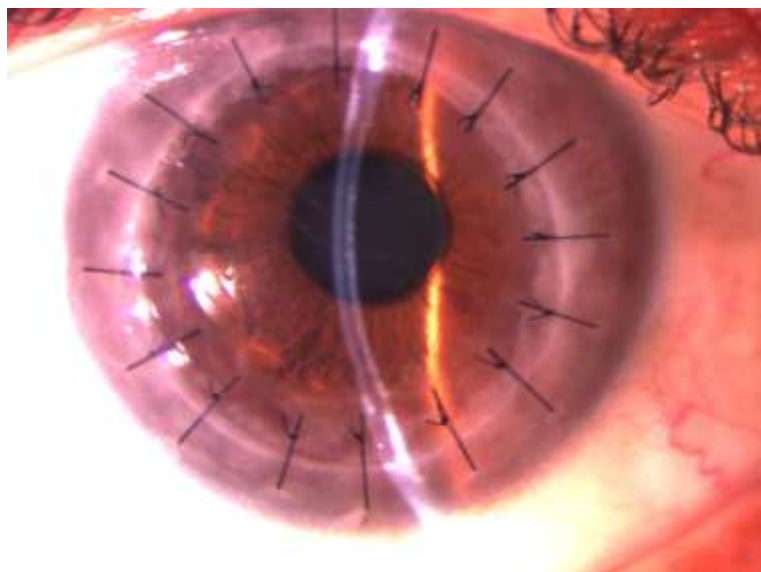
Macular dystrophy



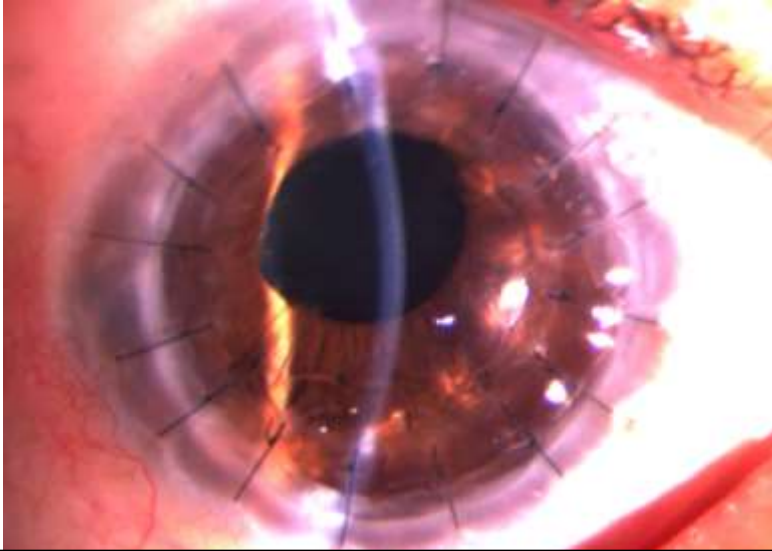
DALK- Pre DM (type 1 BB)



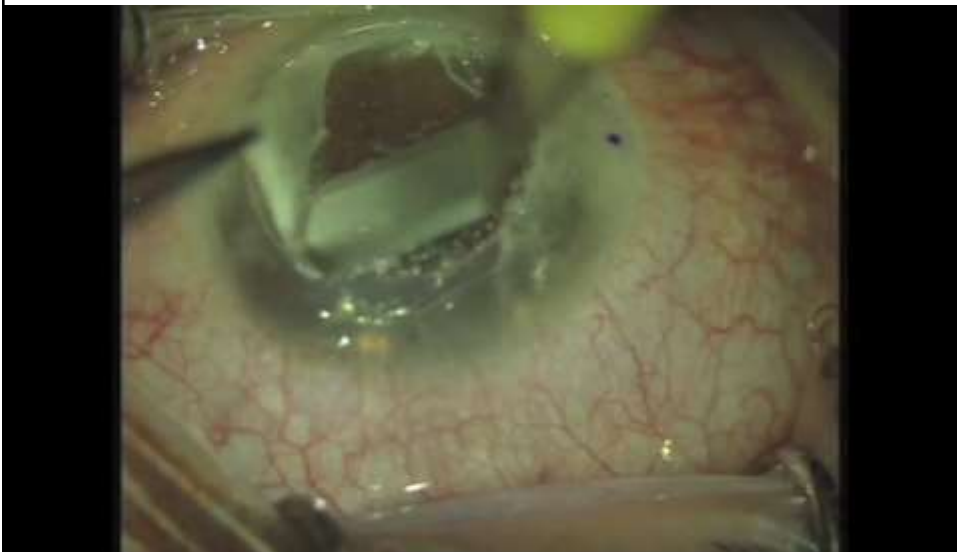
DALK- Bare DM (type 2 BB)



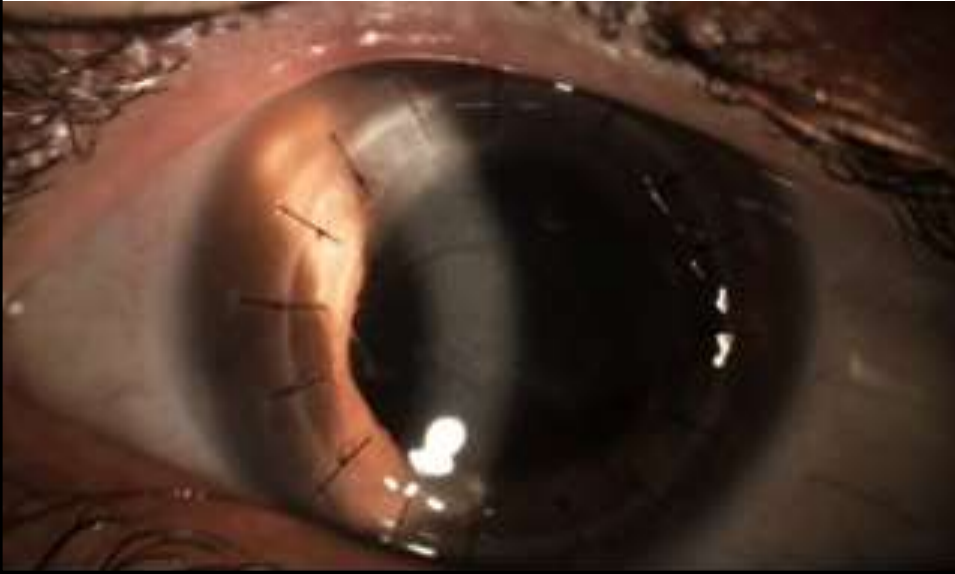
PKP



DALK with large perforation



DALK with large perforation



*That's what I did!
Could it be better?*

Case presentation 1

- 60 years old male
- vitrectomy for dropped nucleus since 10 years
- Left eye atrophic from old trauma
- BSCVA 2/60
- PKB with large iridectomy



How to manage

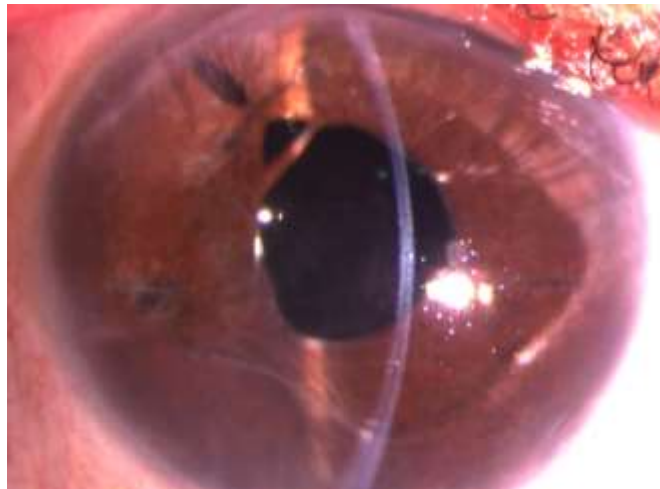
- PKP
± IOL exchange
- DSAEK
± Iris repair
- DMEK

DMEK, iris suturing and IOL exchange



Was my decision right?

- Difficult surgery
- Time consuming
- 5 rebubbings

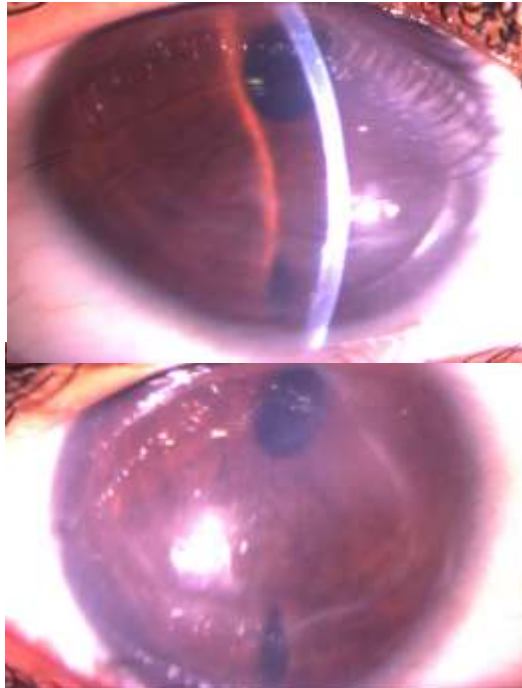


Case presentation 2

- 6 years old girl with ADHD, previous glaucoma surgery due to cloudy cornea (misdiagnosed as glaucoma)
- Corneal oedema in both eyes, no epithelial bullae (congenital hereditary endothelial dystrophy)
- Right eye: Drawn up pupil, vision 2/60
- Left eye: vision 0.05
- Younger sister has the same condition

2 months postop:

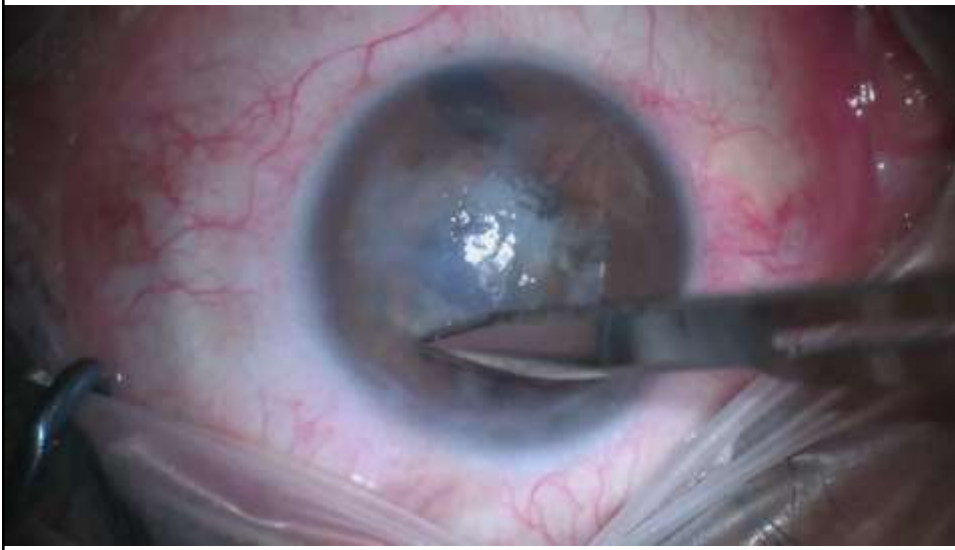
- One rebubble
- Vision: 0.1
- still stromal haze



Case presentation 3

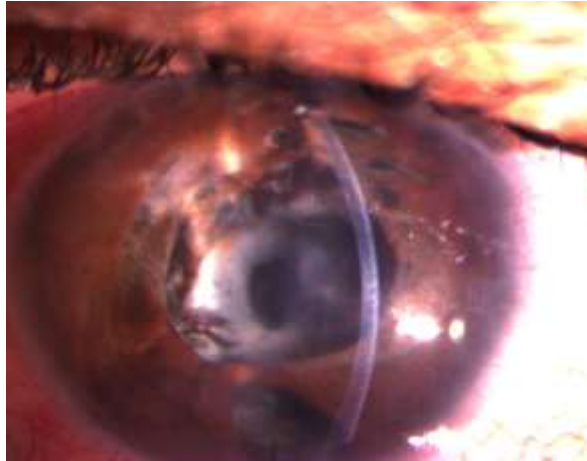
- 29 years old male patient, history of trauma, multiple surgeries in childhood was ok for 10 years
- Cornea: PBK, hypertrophied epithelium, stroma clear
- IOL part in AC and part behind the iris
- 360° post. Synaechia, multiple iris defects

DMEK and anterior segment reconstruction



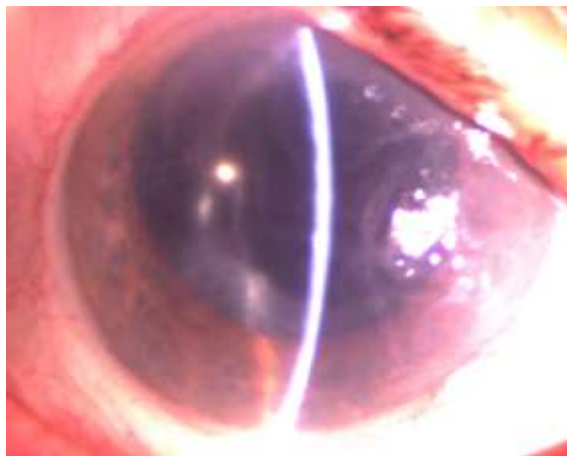
DMEK and anterior segment reconstruction (10th day)

- Difficult surgery
- Time consuming
- Glaucoma ??
- Cosmetic ??



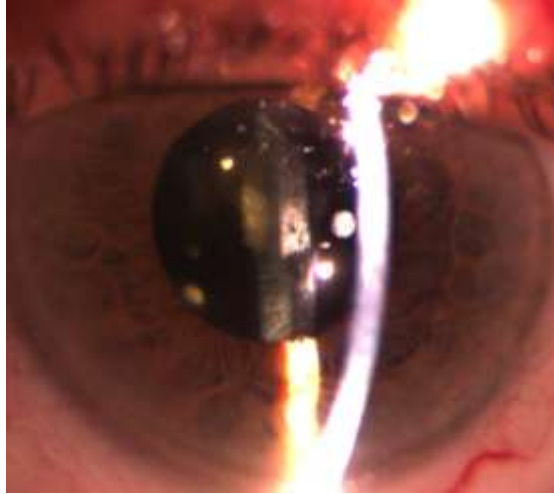
Case presentation 5

- 70 year-old male patient
- CACG, dilated pupil
- PBK (phaco done one year ago with hydrophilic IOL)
- Other eye pseudophakic with opacified IOL



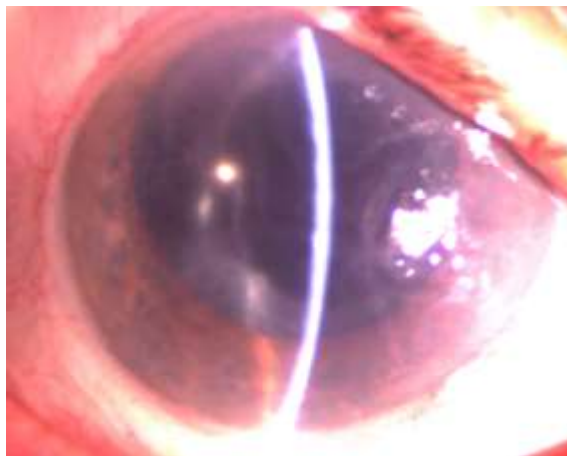
Case presentation 4

- 70 year-old male patient
- CACG, dilated pupil
- PBK (phaco done one year ago with hydrophilic IOL)
- Other eye pseudophakic with opacified IOL



Case presentation 4

- DSAEK or DMEK
- IOL exchange ??
- Pupilloplasty ??



Pupilloplasty and DMEK



Thank You