

TREATMENT IN KERATOCONUS: WHATS NEW DOCTOR ?

**Dr O BELTAIEF
NADI AL BASSAR**

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INTRODUCTION

- Non inflammatory acquired disease , slowly progressive, asymmetric
 - *Corneal ectasia*
 - *Irregular astigmatism*
 - *Corneal opacities*
- Diagnosis: clinic + topography
- Problems non solved
 - *Pathogeny*
 - *Screening of infraclinic cases*
- Last decades : new treatments



INTRODUCTION

- New era for keratoconus since
 - *Topography screening*
 - *Cross linking*
 - *Femto*
- Challenges
 - *Prevention of keratoconus evolution/ stabilisation*
 - *Improvement of VA*
 - *Reducing keratoplasties*
 - *Prevention of post lasik ectasia*

EPIDEMIOLOGY

- Frequency : 50 to 230 cases / 100 000 hab
- Prevalence : 54.5 / 100,000 hab
- 5 % of Lasik candidates : KC fruste
- Sex: Male>Female
- Race : Asia, Middle East and North Africa

ETIOPATHOGENY

multifactorial disease

■ Genetics

- *Heredity*
- *Genetics*
 - Gene MIR184 chromosome 15q22-q24a
 - Gene DOCK9 chromosome 13q32
 - Gene VSX1
 - **Gene** SOD1 (superoxide dismutase 1)

■ Environmental

- *Atopy*
- *EYE RUBBING+++*

DIAGNOSIS

■ Corneal Topography:

- *Indices*
- *SCORE*

■ OCT Cornea

■ New Classifications

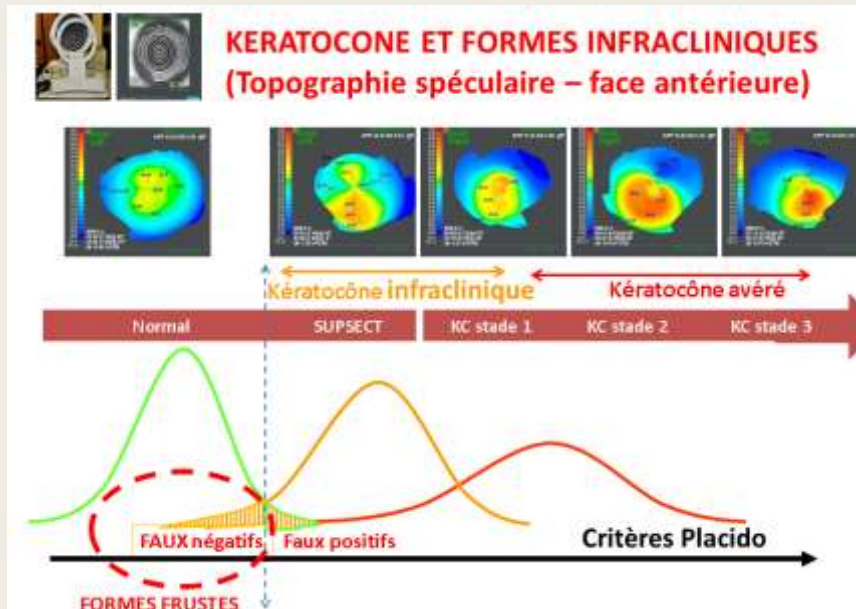
SCORE ANALYSER (ORBSCAN)

SCORE : « Screening Corneal Objective Risk of Ectasia »



OCT VISANTE

- Stade 1: amincissement épithélium et stroma au nv du cône.
- Stade 2: hyper réflectivité au nv de la membrane de Bowman avec épaissement épithélium au nv cône
- Stade 3: déplacement postérieur hyper réflectivité au nv de la membrane de Bowman avec épaissement épithélium plus marqué et amincissement stromal
- Stade 4: opacité stromale .
- Stade 5 Hydrops ou KC aigu;
 - 5a phase aiguë
 - 5b phase de cicatrisation



PREVENTION OF EYE RUBBING

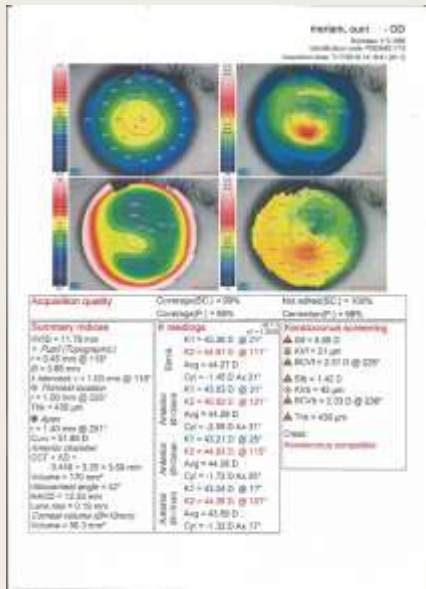
- Medical Treatment
 - *New Drugs*
 - *Preservative free*
- Scleral Contact Lenses

CROSS LINKING

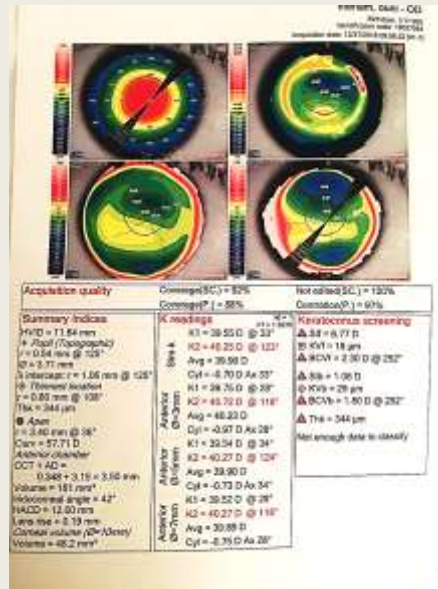
- EPI – ON? Transepithelial ? EPI- OFF ?
- Duration: 30 min / 10 min / 3 min
- Iontophoresis
- Pulsed/discontinuous : to improve UVA action

PRK + CLX

- Athens Protocol
- Photo-ablation : 50µm stroma
- PRK Topo-guided



-3 (-2@30) → 1/10

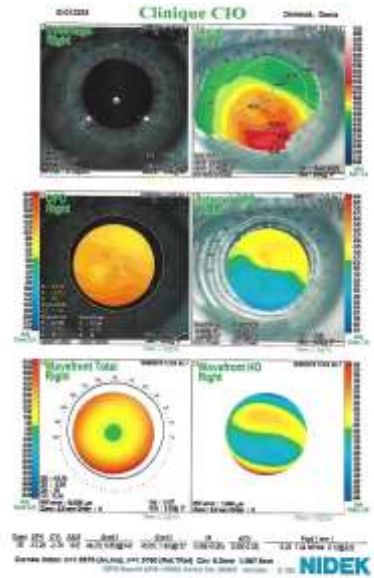
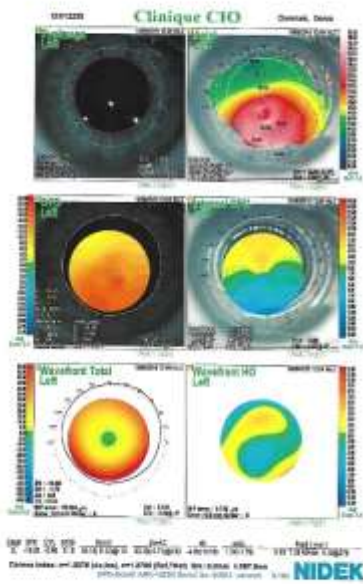


+0.75 (-0.25@60) → 6/10

TORIC ICL



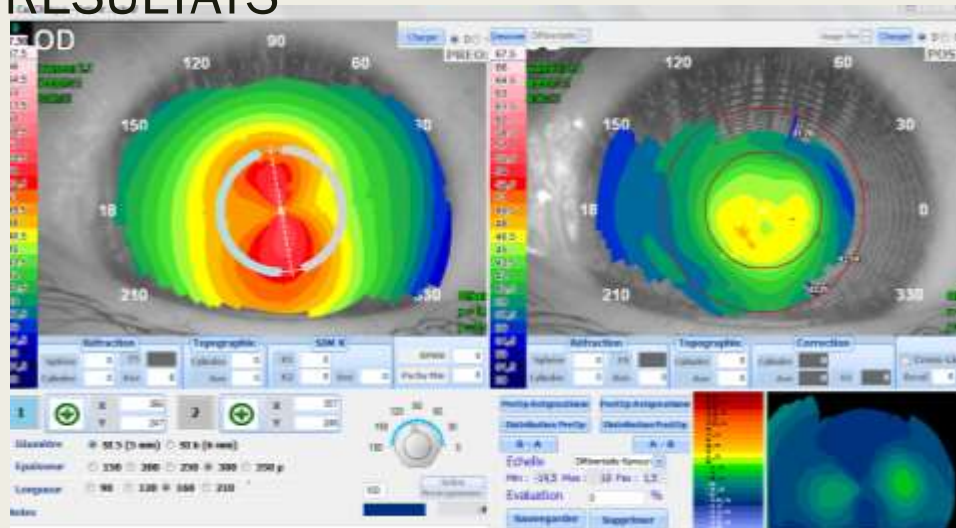
- 23 years old Patient
- Kc st3
 - CL intolerant
 - CLX
- PreOp -14 (-5 @ 100) → 4/10
- ICL -18(+4 @10)
- PostOp : -0.5(-0.75@100) → 6/10



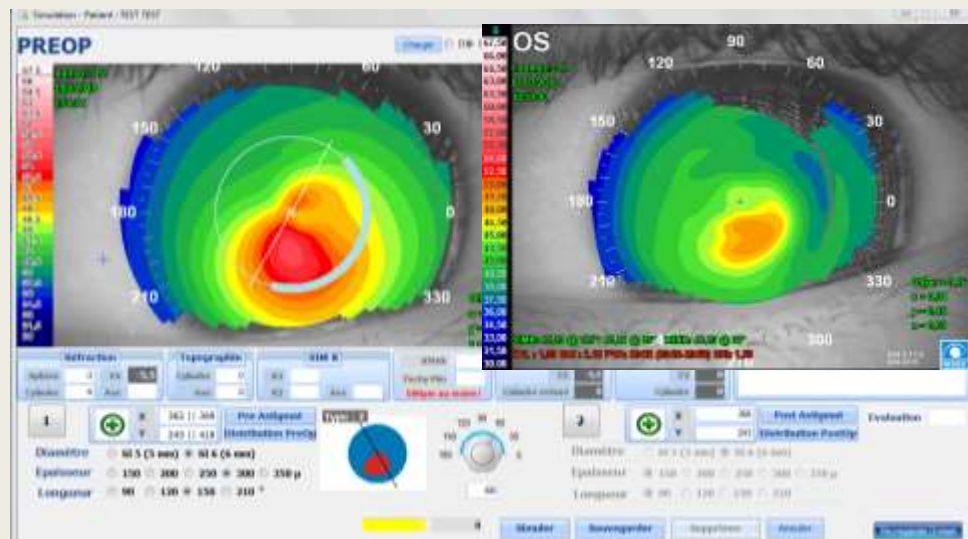
INTRACORNEAL RINGS

- Progressive asymmetric rings

RESULTATS



RESULTATS



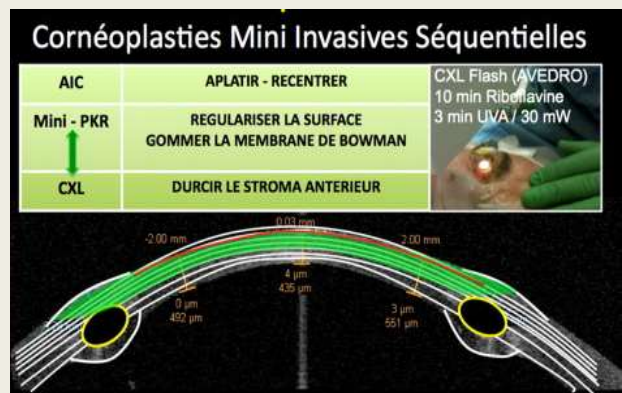
KERARINGS 355 & 340°

- SI 355° 200µm → SE ≤ 6 diopt
- SI 355° 300µm → SE > 6 diop
- Indication
 - Cône central avec astigmatisme modéré
 - $K < 70$
 - Pachymétrie > 400µ



CORNEOPLASTY

- Corneal collagen cross linking (CXL)++
- PRK
- Intra Corneal Rings
- adaptation de correction optiques ou de lentilles souples et/ou rigides



KERATOPLASTIES

- DALK
- Intrastromal Stem cells implants

HYDROPS

- Endothelium
- PRE-DESCEMETIC SUTURES
in the acute phase
 - *Faster decrease of the edema*
 - *Reduces time of healing*
 - *+/- OCT GUIDED*



