



# BRASCRS 2022

XIX Congresso Internacional de Catarata e Cirurgia Refrativa

XIII Congresso Internacional de Administração em Oftalmologia

III Curso de Auxiliares em Oftalmologia

## 25 A 28 DE MAIO | SALVADOR - BAHIA

### E-PÔSTER

**Título: CENTRAL TOXIC KERATOPATHY POST-PHOTOREFRACTIVE KERATECTOMY: A CASE REPORT**

**Nome do(s) autor(es):** Gentil Aurélio Silva Luz Júnior, Sheila Moreno Halla, Fernanda Magalhães, Renata Fernandes Cunha, Alana Viana Alencar de Oliveira, Eloah Nunes Torres  
**Nome da instituição:** Hospital Humberto Castro Lima (IBOPC)

**Palavras-chave:** Central toxic keratopathy, PRK, keratitis.

#### Background

Central toxic keratopathy (CTK) describes a rare, acute, non-inflammatory complication most associated with excimer laser ablation surgery (e.g., laser assisted in situ keratomileusis (LASIK) or photorefractive keratopathy (PTK) surgery). Pathophysiologic changes in CTK are incompletely understood; however, some aspects of the disease have been established. One principal aspect of the disease is corneal thinning due to stromal loss. The most well supported theory to explain the underlying mechanism is an apoptosis of keratinocytes. This mass keratinocyte apoptosis may also be the cause of the observed central opacity<sup>[1][2][3]</sup>.

#### Case Presentation

##### Initial Visited:

A 34-year-old woman working as a beautician, with a desire to perform refractive surgery. The patient's medical history was positive for allergic rhinitis. Ocular history was unremarkable

Visual Acuties:

\*OD: sc 20/200 \*OS: sc 20/200

Glasses prescription: OD:-3,50 OS:-3,00

Slit lamp examination was unremarkable.

OD: 5,25 -0,70 x 005

OS: -5,00

RE:

OD: 5,25 -0,50 x 005

OS: -5,00

##### Figure 1: The patient's baseline tomography

The patient underwent PRK with Mitomycin for 45 seconds.

##### Follow-up

##### 1-day post operative visit:

Visual acuity:

OD: sc 20/20- OS: sc 20/20-

Anterior segment findings: corneal clarity, epithelium healing.

##### 5-day post operative visit:

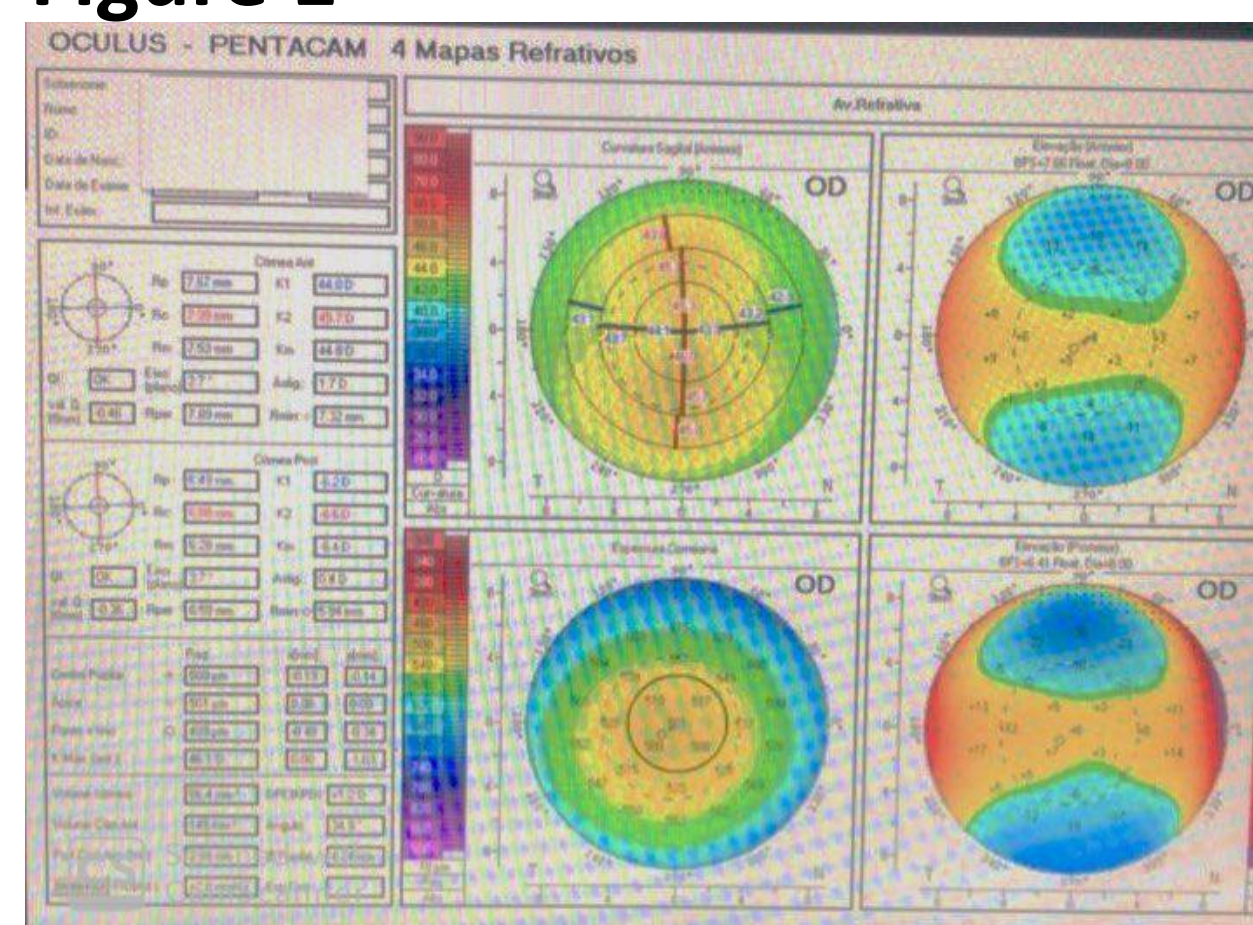
Worsening visual acuity for near and far.

OD: sc 20/100- OS: sc 20/100-

Anterior segment findings: Epithelialized cornea, superficial opacity at the ablation site (OD > OS)

##### Figure 2. The patient's post operative tomography

##### Figure 1



##### Figure 2

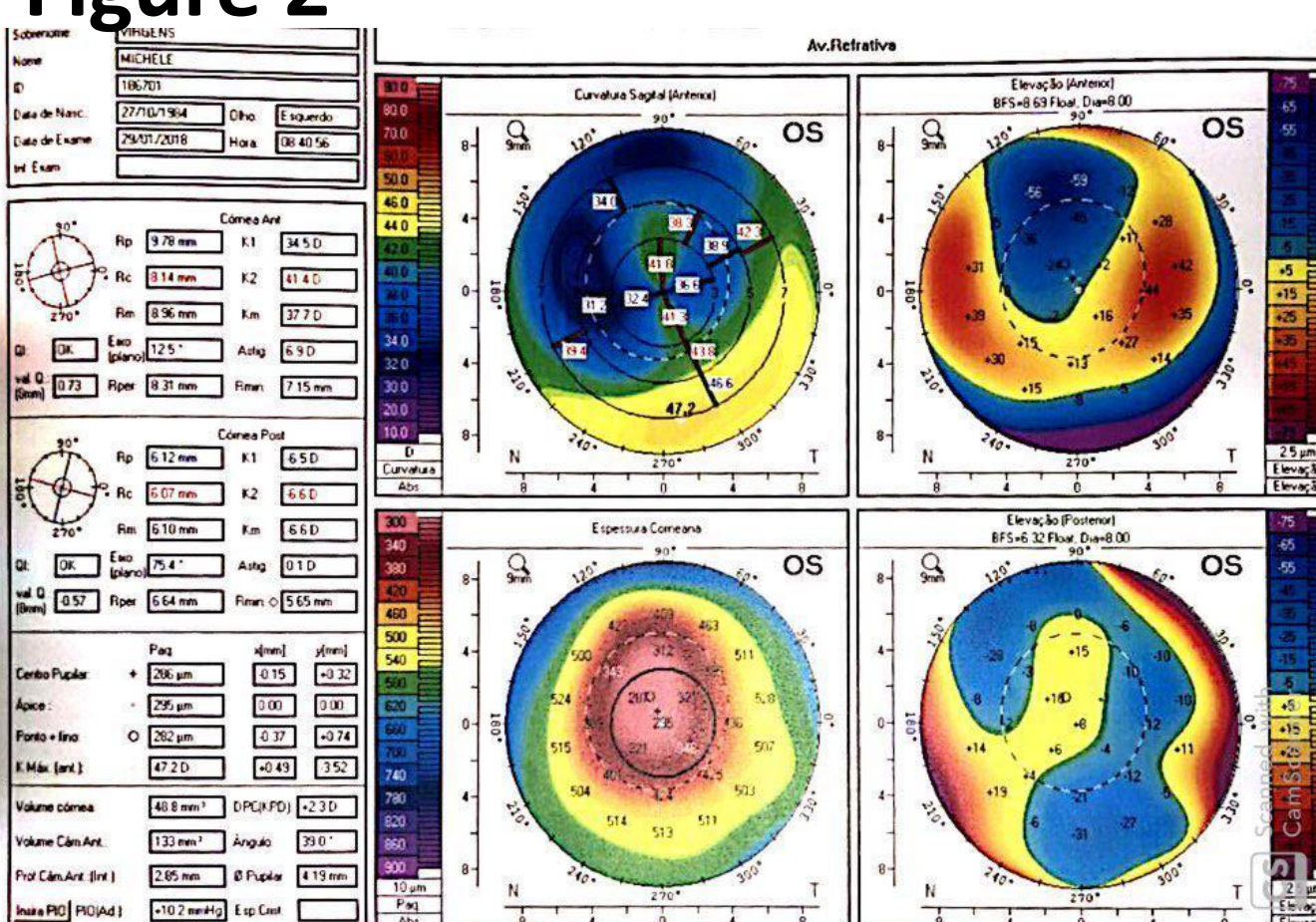


Figure 3. Anterior biomicroscopy of the right eye on the fifth postoperative day.

Meds: Prednisolone acetate 1% 2/2h

##### 12-day post operative visit:

Partial improvement in visual acuity, but with great difficulty for close vision.

OD: sc 20/50 OS: sc 20/50

Final refractive:

OD: +4,00 -3,00 x 005 20/40

OS: +3,50 -4,00 x 010 20/40

Anterior segment findings: loss of corneal clarity, diffuse lamellar keratitis (DLK)

##### 13-day post operative visit:

Rigid gas permeable contact lenses was adapted: CENTURY XO

OD: BC 40,00 pl 10,2 20/25

OS: BC 40,00 pl 10,2 20/25

Meds: Prednisolone acetate 1% 2/2h

##### 1 month post operative visit:

Improves vision far away using TLC RGP to work.

VA: OD 20/40 OS: 20/40P

Final refractive

OD: +2,00 -1,25 x 005 20/20 OS: +1,50 -2,25 x 010 20/25

##### 2 months post operative visit:

VA: OD 20/20 OS: 20/25P

Final refractive

OD: +0,50 OS: +0,75 -2,25 x 020

##### 3 months post operative visit:

Satisfied with surgery. No more TLC RGP.

VA: OD: sc 20/20

OS: sc 20/20-

Final refractive:

OD: -0,50 x180 OS -0,50 x 180

##### Figure 4. Anterior biomicroscopy of the right eye in the final postoperative period.

##### Conclusions

The patients diagnosed with CTK, a term used to describe steroid-unresponsive stromal thinning following laser refractive surgery, experienced corneal stromal thinning associated with central opacification (haze), hyperopic shift and central striae begin on post-operative day 2-6. The central corneal opacification in CTK may begin with diffuse lamellar keratitis (DLK) on post-surgery day 1 or 2 and quickly gives rise to a dense opacification of the central corneal stroma.<sup>1</sup>

##### Reference

1. Sonmez B, Maloney RK. Central toxic keratopathy: description of a syndrome in laser refractive surgery. Am J Ophthalmol 2007;143:420-7.
2. Moshirfar M, Hazin R, Khalifa YM. Central toxic keratopathy. Curr Opin Ophthalmol. 2010.
3. Hau SCH, Allan BD. In vivo confocal microscopy findings in central toxic keratopathy. J Cataract Refract Surg. 2012.
4. Neira, Waldir MD; Holopainen, Juha M MD; Tervo, Timo M T MD. Cornea. Long-Term Outcome of Central Toxic Keratopathy After Photorefractive Keratectomy, November 2011 - Volume 30 - Issue 11 - p 1207-1212
5. Nicholas Davey, Ioannis M Aslanides, and Vasilis Selimis. A case report of central toxic keratopathy in a patient post TransPRK (followed by corneal collagen cross-linking).

Figure 3

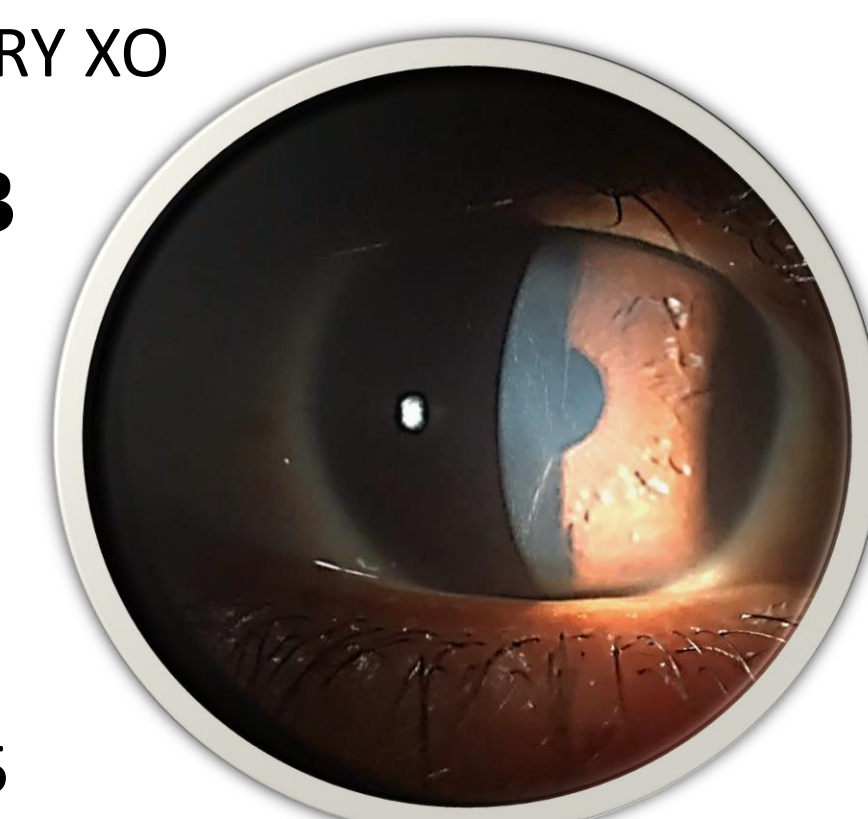


Figure 4

