Ectasia Post-LASIK

*Authors: **Renato Ambrósio Jr.**, MD, PhD, FWCRS, PCEO; **Amanda Souza**, MD; Instituto de Olhos Renato Ambrósio, Rio de Janeiro; Federal University of the State of Rio de Janeiro, Brazil*

We present the case of a patient currently under observation for corneal thinning in the right eye (OD). The patient underwent LASIK surgery in 2002 and subsequently developed post-LASIK corneal ectasia in the same eye. In 2017, corneal cross-linking was performed to stabilize the condition. Currently, the patient has an uncorrected visual acuity (UCVA) of 20/100 in the right eye and uses a scleral contact lens, achieving a best-corrected visual acuity (BCVA) of 20/30.

Corneal ectasia is a rare but serious complication that can occur after laser vision correction procedures like LASIK. It involves the progressive thinning and outward bulging of the cornea, leading to distorted vision similar to keratoconus. Treatment options may include specialized contact lenses, corneal cross-linking to stabilize the cornea, or in severe cases, corneal transplantation. The incidence of corneal ectasia after LASIK is relatively low, estimated to be between 0.04% and 0.6%, depending on factors like patient selection, corneal thickness, and pre-existing corneal irregularities. Higher risk is associated with patients who have thinner corneas, high myopia, or early signs of keratoconus, which is why thorough preoperative screening is essential. Advances in screening and surgical techniques have helped reduce the incidence of this complication, but it remains a serious risk for some patients.

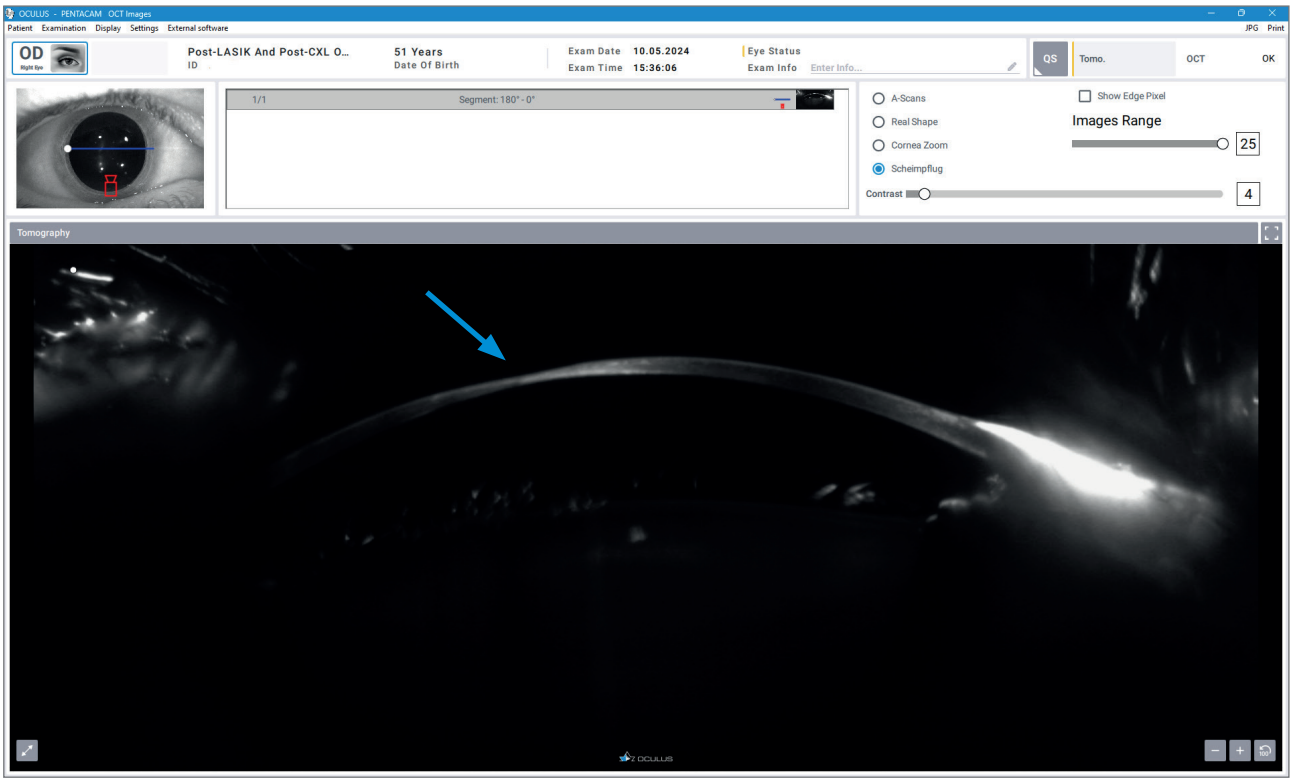

Fig. 1: Pentacam Cornea OCT – in the Scheimpflug image the ectasia is visible with a paracentral hyperreflective area reaching through all layers of the cornea and an abnormal corneal thinning.

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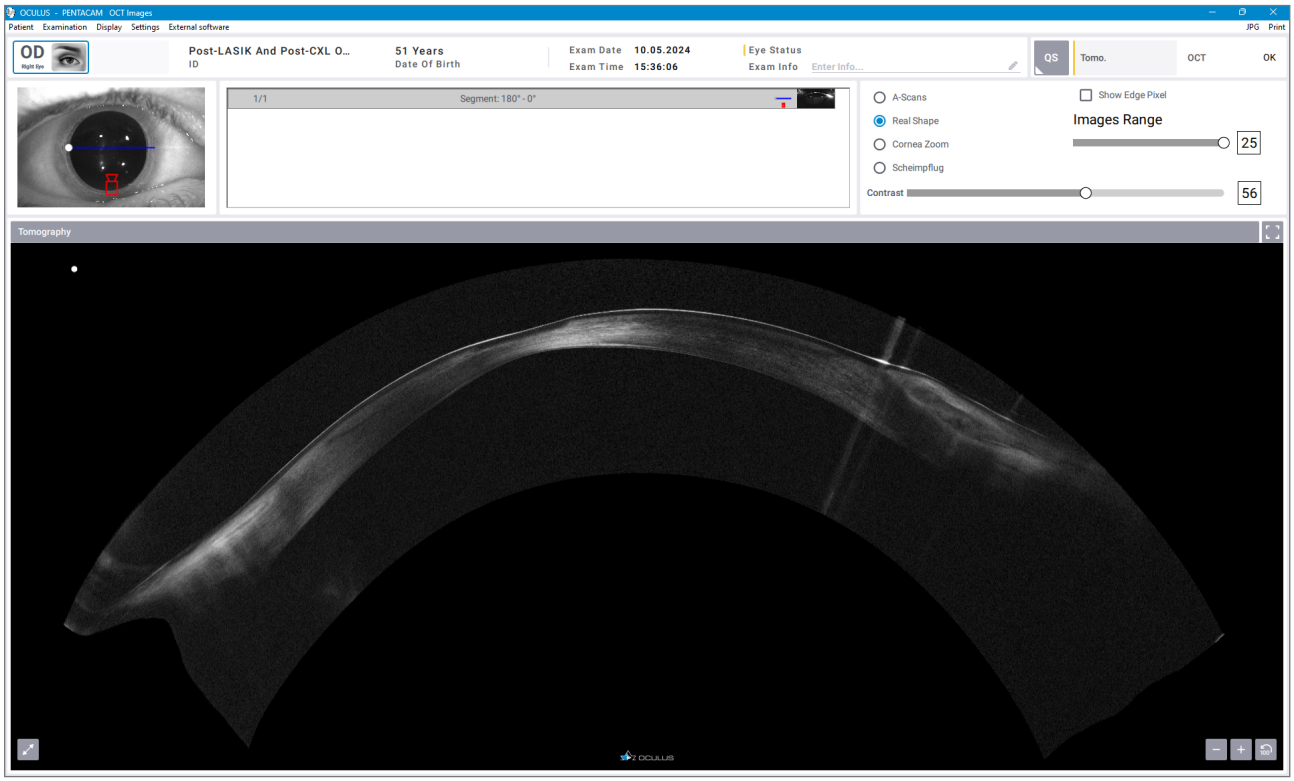

Fig. 2: Pentacam Cornea OCT – in the real shape image, the ectasia is evident, with abnormal thickening of the epithelial layer, stromal thinning, and a cloudy cornea.

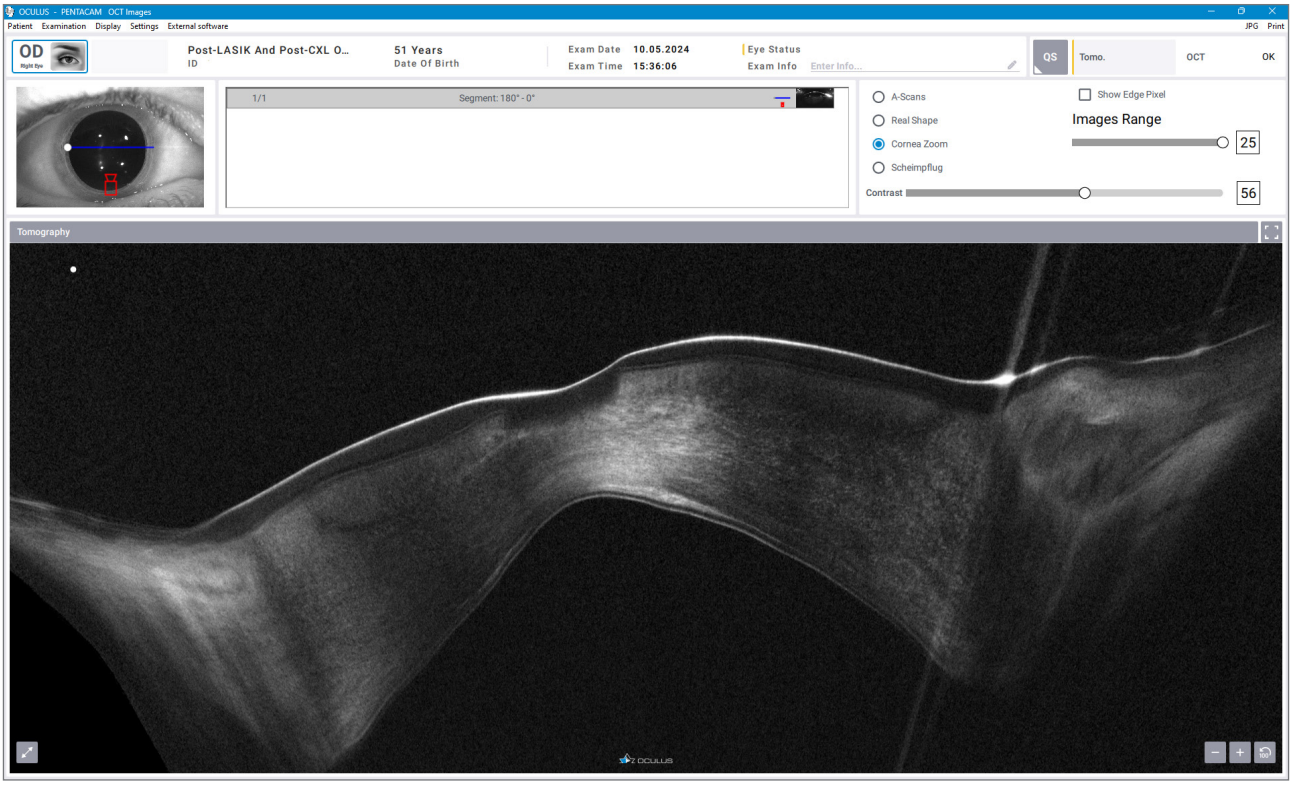

Fig. 3: Pentacam Cornea OCT – in the cornea zoom image the ectatic region is even more clearly visible, the LASIK flap, the rupture of the Bowmann layer epithelial thickening above the thinnest point, stromal thinning, posterior surface protrusion, and abnormal distribution of the corneal stroma.

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This case of post-LASIK ectasia shows once again how high-resolution imaging with the Pentacam Cornea OCT can provide detailed findings and the true extent of the clinical situation.

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