Letter to the Editor

Re: Mortensen JN. Corneal Ectasia after PRK. Int J Kerataco Ectatic Corneal Dis 2012;1(1):73-74.

Dear Editor,

I read with great interest this case report by Dr Mortensen and congratulate him on presenting it. He presents a case of corneal ectasia after photorefractive keratectomy (PRK) which commenced after 16 years. While this case could indeed represent late onset ectasia after PRK, it could, I believe simply, represent a case of pellucid marginal degeneration (PMD) in an eye that has undergone previous unrelated PRK.

The patient had undergone PRK for –3.5 diopters (D) of myopia at the age of 21 in 1990 (probably at that time with a 5 mm optical zone with a central ablation depth of 32 µm and had been spectacle free for 10 years and then had a stable myopic correction for a further 6 years until he developed ectasia. However, once the ectatic process had begun, progress was rapid and unrelenting despite corneal collagen cross-linkage. Indeed, from 2009 to 2011, the cylinder in the left eye increased by over 9D. It would seem likely that in such a case ectasia might not have occurred before 16 years, if the patient had such an aggressive underlying ectatic problem. Ectasia after PRK is rare and almost universally occurs in eyes with abnormal preoperative topography.[1] However, this gentleman could see well without glasses for 10 years so presumably he had very little preexisting astigmatism with presumably regular topography. The topographic picture does not look like postrefractive surgery ectasia, it has a typical Lobster claw picture, with a very low cone and area of corneal thinning consistent with PMD. Indeed, at presentation, the patient had good best spectacle corrected acuity in both eyes with a high against the rule astigmatic correction typical of PMD, this in my experience is unusual in cases of post-LASIK/PRK ectasia. PMD typically occurs in males (over 70%) and presents in the fourth and fifth decades of life, consistent with this case.[2] Thinning typically occurs inferiorly in the peripheral cornea 1 to 2 mm from the limbus and is severe, with up to 80% of stromal loss and the area of protrusion above the area of thinning. It would be interesting to know in this case, if peripheral corneal thinning consistent with PMD was present. Past optometric records and preoperative topographic examinations, if present, would be very helpful to determine, if there was any underlying corneal abnormality and if progression in against the rule astigmatism occurred before presentation at 16 years.

Yours Sincerely

David O'Brart MD FRCS FRCOphth
St Thomas' Hospital, London
e-mail: davidobrart@aol.com

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2. Jinabhai A, Radhakrishnan H, O'Donnell C. Pellucid corneal marginal degeneration: A review. Cont Lens Anterior Eye 2011 Apr;34(2): 56-63.