

ORIGINAL ARTICLE

Pellucid Marginal Corneal Disease in a Case of Atopic Keratoconjunctivitis

Vandana Jain, MD¹, Akshay G. Nair, MBBS¹, Kanupriya Jain-Mhatre, MD¹, and Debraj Shome, MD²

¹Department of Cornea and External Diseases, Retina, Aditya Jyot Eye Hospital Pvt Ltd, Wadala, Mumbai, India

²Department of Aesthetic & Facial Plastic Surgery, Orbital Diseases, and Ocular Oncology, Apollo Hospitals, Hyderabad, India

ABSTRACT

Purpose: To report a case of long-standing atopic dermatitis and atopic keratoconjunctivitis (AKC) with associated pellucid marginal corneal degeneration (PMCD).

Design: Noninterventional case report.

Method: A 45-year-old man presented with the complaints of frequent change in glass prescriptions over the past 5 years. Erythema, dryness, and scaling were noted over both eyelids and the face. An area of inferior peripheral corneal thinning with ectasia of the normal cornea above it was present. Corneal topography showed the presence of against-the-rule astigmatism with inferior sagging of the horizontal semi-meridians, in both the eyes.

Result: The patient was prescribed treatment for AKC and blepharitis and was advised against eye rubbing.

Conclusion: Eye rubbing seen in atopic ocular conditions like AKC may be a contributory factor in the development of PMCD. A thorough examination and topographical evaluation of ectatic corneas is necessary to ensure that cases of PMCD are not misdiagnosed as keratoconus.

KEYWORDS: Atopy; Collagen cross-linking; Keratoconus; PMCD; AKC

Pellucid marginal corneal degeneration (PMCD) is a bilateral, noninflammatory peripheral corneal thinning disorder.¹ In this paper we are describing a hereto unreported association of long-standing atopic keratoconjunctivitis (AKC) with PMCD.

CASE REPORT

A 45-year-old man was referred with complaints of blurring of vision and itching in both eyes for the past 5–6 years. His spectacle power had been progressively

increasing over the past 5 years. His condition was diagnosed as keratoconus and he was advised to have collagen cross-linking elsewhere.

On examination, best-corrected visual acuity was 6/6 in the right eye and 6/6 in the left eye. Manifest refraction was $\pm/-5.25 \times 80^\circ$ in the right eye and $\pm/-4.0 \times 100^\circ$ in the left eye. Erythema, dryness, and scaling were noted over both eyelids and on the facial skin (Figure 1a). On slit-lamp evaluation, diffuse palpebral papillae were seen. The cornea showed ectasia and a peripheral area of crescentic thinning between the 4 and 9 o'clock positions, which were more pronounced in the left eye (Figure 1b). There was no associated epithelial defect or lipid infiltration. On corneal topography against the rule astigmatism with inferior sagging of the semi-meridians was present (Figure 1c). Intraocular pressures were 15 mmHg bilaterally. Both fundi and remaining ocular findings were unremarkable. Corneal pachymetry showed

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Correspondence: Vandana Jain, MD, MNAMS, FICO, Department of Cornea and External Diseases, Aditya Jyot Eye Hospital Pvt Ltd, Plot No-153, Road No-9, Major Parmeshwaran Road, Wadala, Mumbai-400031. Email: docvandanjain@rediffmail.com

thinnest reading of 380 and 360 μ in the right and the left eye, respectively. On dermatological referral, skin condition was diagnosed as atopic dermatitis. Based on these observations, ocular diagnosis of PMCD with AKC with blepharitis was made.

The patient was prescribed lid hygiene, topical olopatadine 0.2% once/day, topical cyclosporine 0.1% 4 times/day, and loteprednol etabonate 0.2% 4 times/day in weekly tapering doses. Capsule doxycycline 100 mg 2 times a day was prescribed for a period of 1 month.

In view of the thin corneas, collagen cross-linking was not advised. At 1-year review, the ocular surface was stable and AKC was quiescent. The patient was advised to continue cyclosporine and olopatadine eyedrops.

DISCUSSION

In atopic dermatitis both the anterior and posterior segments of the eye may be involved. One study reported

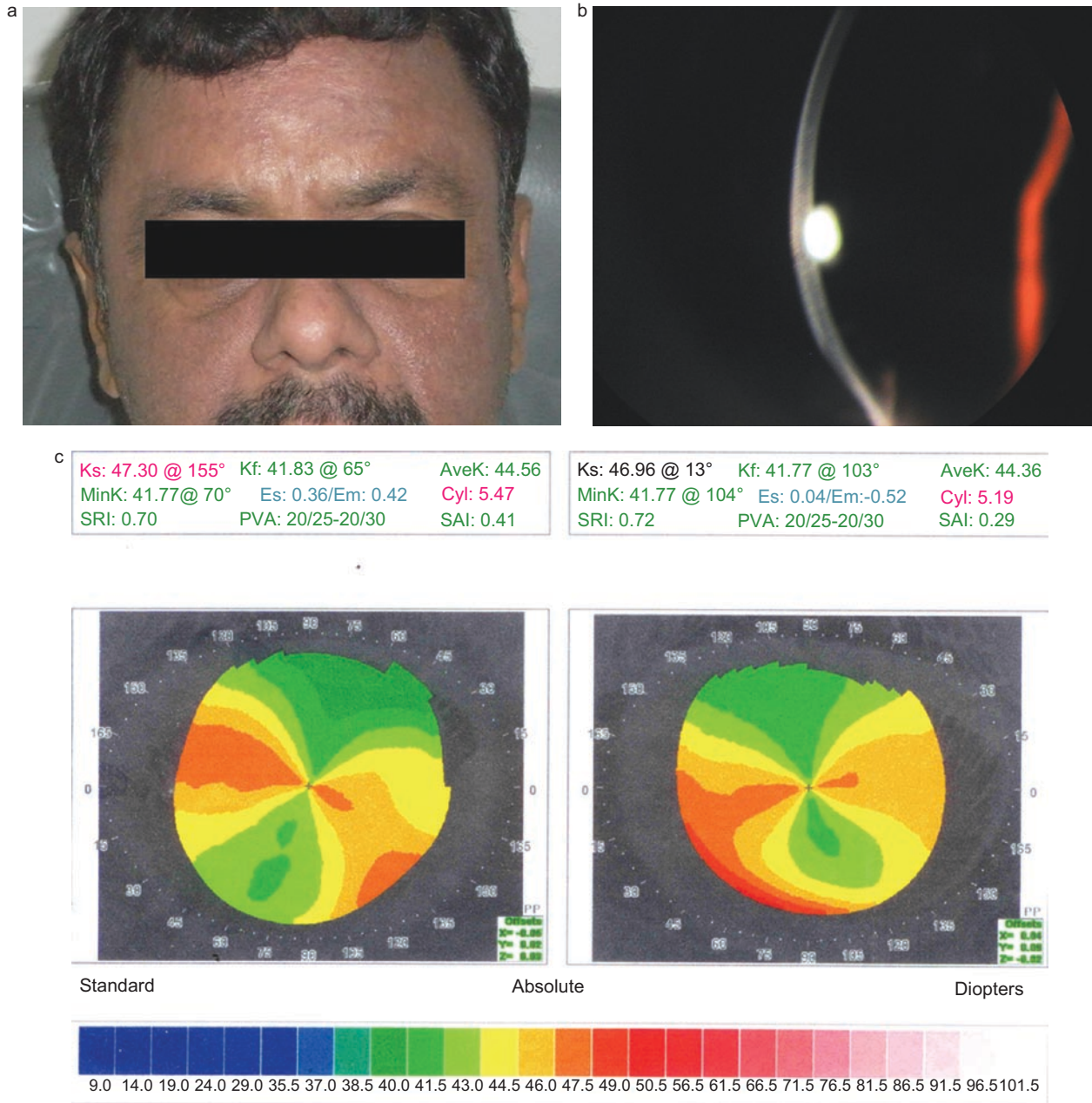


FIGURE 1 (a) Photograph of the face showing erythema and scaling of the facial skin, diagnosed as atopic dermatitis. (b) Slit-lamp photograph of the left eye showing an area of inferior thinning with ectasia of normal cornea above it. (c) Topography showing against-the-rule astigmatism with the inferior sagging of the horizontal semi-meridians, suggestive of PMCD.

ocular involvement in 42.5% cases.² Atopic dermatitis may have associated keratoconjunctivitis, corneal ulcers, neovascularization, keratoconus, anterior and posterior subcapsular cataracts, and retinal detachment.²

PMCD is a progressive noninflammatory ectatic corneal disorder.¹ Association of PMCD with VKC has been documented,^{3,5} and a case reported by Sii et al.⁴ suggested an association with scleroderma. No case of PMCD has, to the best of our knowledge, been reported previously in association with AKC. We hypothesize that the previously documented eye-rubbing ectasia association^{3,5} and the associated inflammatory lid disease may be a contributory factor in the development of PMCD, as in this case. This also reemphasizes the fact that corneal ectatic diseases probably are a part of one spectrum and in atopic patients can manifest in any form. A topographical evaluation of ectatic corneas in atopic patients is necessary to ensure cases of PMCD are not misdiagnosed as keratoconus. Collagen cross-linking should be advised with appropriate modifications in the original technique only if corneal pachymetry readings are above 400 μ .

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