



Corneal hysteresis and corneal resistance factor in pellucid marginal corneal degeneration

Reply

We would like to thank Drs Tekin and Koc for their letter and interest in our study.¹ Koc and associates point out certain similarities between pellucid marginal degeneration (PMD) and inferior keratoconus. As they stated, PMD is a rare condition, and diagnosis of PMD based on topography needs full pachymetry map. We congratulate the authors for their work, and we acknowledge their important insights on the PMD and inferior keratoconus.² However, our study was performed before their publication, and the prevalence of PMD was not the main focus of our study. Also, we conducted this study in a tertiary referral eye clinic.

Notably, we would like to direct Drs Tekin and Koc to the method of our retrospective study.¹ We described in the method of our article that in addition to clinical manifestations and topographic/tomographic maps (sagittal and pachymetry maps), reliable diagnosis of PMD was made by an experienced corneal refractive surgeon based on the results of slit-lamp biomicroscopy (a clear thinning band in the inferior corneal peripheral zone separated from the corresponding limbus by a 1–2 mm clear zone).^{3,4} It should be mentioned that PMD is defined mainly based on the biomicroscopic manifestations.³ Also, we know that the crab claw pattern on corneal topography is not a typical and classical key for PMD diagnosis.^{2,5}

Additionally, Drs Tekin and Koc think that it would be better to compare the corneal hysteresis (CH) and corneal resistance factor (CRF) values of PMD with inferior keratoconus cases showing crab claw pattern on corneal topography instead of keratoconus cases. We agree with Dr. Koc, however, this is not the main focus of our study and needs another study design. Although PMD is localized as an inferior condition, our study has revealed that PMD can change central corneal biomechanical properties in terms of CH and CRF. Also, several studies have assessed the changes in the central corneal biomechanical properties (CH and CRF) in different ocular conditions with normal corneal thickness.⁶ A finding of note in the present study is that PMD is not a localized condition.

References

1. Sadaghat MR, Ostadi-Moghadam H, Jabbarvand M, Askarizadeh F, Momeni-Moghadam H, Narooie-Noori F. Corneal hysteresis and corneal resistance factor in pellucid marginal degeneration. *J Curr Ophthalmol*. 2018;30(1):42–47.
2. Koc M, Tekin K, Inanc M, Kosekahya P, Yilmazbas P. Crab claw pattern on corneal topography: pellucid marginal degeneration or inferior keratoconus? *Eye (Lond)*. 2017. <https://doi.org/10.1038/eye.2017.198> [Epub ahead of print].
3. Krachmer JH. Pellucid marginal corneal degeneration. *Arch Ophthalmol*. 1978;96(7):1217–1221.
4. Sridhar MS, Mahesh S, Bansal AK, Nutheti R, Rao GN. Pellucid marginal corneal degeneration. *Ophthalmology*. 2004;111(6):1102–1107.
5. Lee BW, Jurkunas UV, Harissi-Dagher M, Poothullil AM, Tobaigy FM, Azar DT. Ectatic disorders associated with a claw-shaped pattern on corneal topography. *Am J Ophthalmol*. 2007;144(1):154–156.
6. Garcia-Porta N, Fernandes P, Queiros A, Salgado-Borges J, Parafita-Mato M, Gonzalez-Mejome JM. Corneal biomechanical properties in different ocular conditions and new measurement techniques. *ISRN Ophthalmol*. 2014;2014: 724546.

Mohamad Reza Sedaghat, MD
Cornea Research Center, Khatam-Al-Anbia Hospital, Mashhad University of Medical Sciences, Mashhad, Iran

Mahmoud Jabbarvand, MD
Eye Research Center, Farabi Eye Hospital, Tehran University of Medical Sciences, Tehran, Iran

Farshad Askarizadeh, PhD,
Hadi Ostadimoghaddam, PhD,
Foroozan Narooie-Noori, MSc*
Department of Optometry, School of Paramedical Sciences,
Mashhad University of Medical Sciences, Mashhad, Iran
Refractive Errors Research Center, School of Paramedical Sciences, Mashhad University of Medical Sciences, Mashhad, Iran

*Corresponding author. Department of Optometry, School of Paramedical Sciences, Mashhad University of Medical Sciences, Azadi Sq, Vakil Abad Bly, Mashhad, 9177948964, Khorasan Razavi Province, Iran.
E-mail address: f.narooie.opt@gmail.com
(F. Narooie-Noori).