

# Evaluation of Corneal Structure and Endothelial Morphological Characteristics in Type 2 Diabetic and Non-Diabetic Patients [Letter]

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## Dear editor

We read with great interest the article by Beato et al about the evaluation of corneal structure and endothelial morphological characteristics in type 2 diabetic and non-diabetic patients.<sup>1</sup>

We would like to congratulate the authors for their impressive paper, because a precise corneal thickness measurement is very important, for example, in evaluating the intraocular pressure<sup>2</sup> in diabetic patients and we appreciate the authors evaluated the central corneal thickness (CCT) related with the corneal volume, that could better be correlated with eventual endothelial changes.<sup>3-6</sup>

However, we would like to make some comments on this article, because in our opinion there are some points that need to be clarified.

In a previous paper, we found that CCT obtained with Topcon SP-3000P was thinner than the measurements obtained with Pentacam, and we proposed a regression formula to make the measurements comparable.<sup>7</sup> As the authors utilized the same devices, we wonder if they had a similar experience.<sup>8,9</sup>

Moreover, we read in Table 1 that an important number of the diabetes mellitus (DM) group and not-diabetes mellitus (not-DM) one were affected by systemic hypertension, dyslipidemia and BMI >25 kg/m<sup>2</sup>; we wonder if the similarity between the two groups could be related to the presence of metabolic syndrome,<sup>10</sup> that probably affected an important number of patients in both groups, and, according to Su et al, is correlated with a greater CCT.

In our opinion, it would be interesting in a future study to compare the CCT and CV in DM and not-DM patients in absence of other factors and diseases that could increase CCT.

## Disclosure

The authors report no conflicts of interest in this communication.

## References

1. Beato JN, Esteves-Leandro J, Reis D, et al. Evaluation of corneal structure and endothelial morphological characteristics in type 2 diabetic and non-diabetic patients. *Clin Ophthalmol.* 2020;14:1993–1999. PMID: 32764865; PMCID: PMC7369306. doi:10.2147/OPHTH.S256244

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2. Lanza M, Borrelli M, De Bernardo M, Filosa ML, Rosa N. Corneal parameters and difference between Goldmann applanation tonometry and dynamic contour tonometry in normal eyes. *J Glaucoma*. 2008;17:460–464. doi:10.1097/IJG.0b013e31816224bd
3. De Bernardo M, Capasso L, Lanza M, et al. Long-term results of corneal collagen crosslinking for progressive keratoconus. *J Optom*. 2015;8(3):180–186. PMID: 26105541; PMCID: PMC4502088. doi:10.1016/j.optom.2014.05.006
4. Rosa N, De Bernardo M, Borrelli M, Filosa ML, Lanza M. Effect of oxybuprocaine eye drops on corneal volume and thickness measurements. *Optom Vis Sci*. 2011;88(5):640–644. PMID: 21358446. doi:10.1097/OPX.0b013e3182114303.
5. Rosa N, De Bernardo M. Central corneal thickness determination in corneal edema. *Graefes Arch Clin Exp Ophthalmol*. 2017;255(6):1251–1252. PMID: 28299437. doi:10.1007/s00417-017-3634-9
6. De Bernardo M, Rosa N. Central corneal thickness after cross-linking using high-definition optical coherence tomography, ultrasound, and dual scheimpflug tomography: a comparative study over one year. *Am J Ophthalmol*. 2017;176:254. PMID: 28159112. doi:10.1016/j.ajo.2017.01.007
7. De Bernardo M, Borrelli M, Mariniello M, Lanza M, Rosa N. Pentacam vs SP3000P specular microscopy in measuring corneal thickness. *Cont Lens Anterior Eye*. 2015;38(1):21–27. PMID: 25240777. doi:10.1016/j.clae.2014.08.006
8. De Bernardo M, Vitiello L, Abbinante G, et al. Comparison between two devices in the detection of corneal thickness changes after cataract surgery. *Sci Rep*. 2021;11(1):6709. PMID: 33758298; PMCID: PMC7988103. doi:10.1038/s41598-021-86158-6.
9. De Bernardo M, Rosa N. Comparison of specular microscopy and ultrasound pachymetry before and after cataract surgery. *Graefes Arch Clin Exp Ophthalmol*. 2017;255(4):837–838. PMID: 28154931. doi:10.1007/s00417-017-3604-2
10. Su DH, Wong TY, Foster PJ, Tay WT, Saw SM, Aung T. Central corneal thickness and its associations with ocular and systemic factors: the Singapore Malay eye study. *Am J Ophthalmol*. 2009;147(4):709–716.e1. PMID: 19152872. doi:10.1016/j.ajo.2008.10.013

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