version was used. In this case, the text adds no further details about the procedure. We are unaware whether the ASB was assessed only before capsulotomy, or before and after PCO removal. The latter strategy was chosen in our studies.

Authors can certainly enlighten us in these aspects.

References

- 1 Vetrugno M, Masselli F, Greco G, Sisto D, Maino A, Ficarelli S *et al.* The influence of posterior capsule opacification on scanning laser polarimetry. *Eye*, advance online publication, 7 April 2006. doi:10.1038/sj.eye.6702323.
- 2 Garcia-Medina JJ, Garcia-Medina M, Shahin M, Pinazo-Duran MD. Posterior capsular opacification affects scanning laser polarimetry examination. *Graefes Arch Clin Exp Ophthalmol* 2006; 244: 520–523.
- 3 Garcia-Medina JJ, Garcia-Medina M, Dorta SG, Pinazo-Duran MD, Gallego-Pinazo R, Zanon-Moreno VC. Effect of posterior capsular opacification removal on scanning laser polarimetry measurements. *Graefes Arch Clin Exp Ophthalmol*, advance online publication, 22 Mar 2006. doi:10.1007/s00417-005-0244-8.

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a study using the same instrument, namely GDx Access with variable corneal compensation (VCC). Dr Garcia Medina enquired whether we used VCC in our study. The answer is yes. All measurements were taken using GDx Access using default setting, that is, with VCC enabled. As we did not modify the machine setting, we thought that specifying this in the text would have been redundant. However, we thank Dr Garcia Medina for giving us the possibility of clarifying this detail.

As far as the discordance between our results and his, we respectfully remind Dr Garcia Medina that no more than 28 eyes were included in his larger study. When we set up our study, we determined that the minimum sample size to have a statistical power of 80% with an alpha error of 0.05 and an effect size of medium magnitude (d = 0.5) would have been 102 eyes. We would like to highlight how all these parameters are considered to be the norm in sample size calculations. Given the sample size reported by Dr Garcia Medina, the power of his study results to be less than 40%. While his methodology is faultless, perhaps his group might want to consider repeating the study with a larger sample in order to achieve a more robust analysis.

Reference

 Garcia Medina JJ, Garcia Medina M, Dorta SG. Effect of posterior capsular opacification removal on scanning laser polarimetry measurements. *Graefe Arch Clin Exp Ophthalmol* 2006 March 22, doi:10.1007/s00417-005-0244-8.

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Sir, Reply to Dr Gracia-Medina

We thank Dr Garcia Medina for his interest in our article. In his study,¹ Dr Garcia Medina and his team conducted

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Sir,

Superior keratoconus with inferior paracentral corneal thinning and inferior peripheral pellucid marginal degeneration

Herein is a description of an uncommon case of bilateral superior keratoconus with inferior paracentral corneal thinning and inferior peripheral pellucid marginal degeneration.

Case report

A 30-year-old male patient was presented with poor vision in both eyes. His visual acuity was 20/40 OD with plano — $6.0 \times 30^{\circ}$ and 20/100 OS with plano — $6.5 \times 170^{\circ}$. Slit-lamp examination revealed a superior corneal protrusion and inferior paracentral corneal thinning in both eyes. An Orbscan, a three-dimensional slit-scan topography system, was utilized (Figure 1a and b). A well-defined superior steep area, with the rule astigmatism and an asymmetric bow-tie configuration, was noted (Figure 1a and b, left lower). The cone apex (the point of maximal reading on the anterior elevation map) was 1.8 mm above the corneal vertex on the 150 meridian in the right eye and 1.7 mm above the corneal vertex on the 25 meridian in the left eye (Figure 1a and b, left upper). The thinnest point of cornea was $309 \,\mu\text{m}$, 2.3 mm below the corneal vertex on the 290 Meridian in the right eye and $311 \,\mu\text{m}$, 2.2 mm below the corneal vertex on the 260 Meridian in the left eye (Figure 1a and b, right lower). There was disparity between the anterior and posterior corneal surface elevations (Figure 1a and b, left and right upper). The distance between the apex and the thinnest point was 3.57 mm in the right eye and 3.47 mm in the left eye. Superior keratoconus with inferior paracentral corneal thinning was diagnosed.

Moreover, below the paracentral corneal thinning, there is a bend and thick region and below the bend, there is a thin region near the limbus. The Orbscan showed there was a flat area surrounded by steep circle in the inferior peripheral zone of the cornea (Figure 1a and b, left lower). Hence, the patient was suspected with early pellucid marginal degeneration (PMD).

Discussion

The patient had three rare conditions in his eyes: superior keratoconus, a very long distance between

keratoconus apex and the thinnest point; and two different corneal ectatic diseases in the same eyes. Although each condition was reported before, no case with the three conditions occurring simultaneously in the same eyes were reported.

The relationship between the apex and the thinnest point of keratoconus had been reported by Auffarth *et al*¹ that study, the apex (the highest) and the thinnest point were usually close, but sometimes there were large distances between them $(0.917 \pm 0.729 \text{ mm}, \text{ range } 3.364 - 0.068 \text{ mm})$. In our case, the distance between the apex and the thinnest point (3.57 mm in the right eye and 3.47 mm in the left eye) is longer than reported, and the thinnest point was found to be nearly outside the cone.

There is a superior corneal ectasia with inferior paracentral corneal thinning in the patient's upper $\frac{2}{3}$ cornea. Corneal ectasia above the zone of thinning is characterized by PMD, so PMD and its superior variation were the most closely logical differential diagnosis in our patient's upper $\frac{2}{3}$ cornea. The superior variation of PMD described the superior corneal protrusion located below the superior and peripheral corneal thinning.^{2–4} The topography of PMD reveals against-the-rule astigmatism, inferior loop cylinder, and a unique butterfly pattern of horizontal sagging. In the patient, topographic findings demonstrate with the rule astigmatism and an asymmetric bow-tie configuration, and the thinnest point is located below the cone. Hence, in the patient's upper $\frac{2}{3}$ cornea, it was superior keratoconus, and PMD or its superior variation was not likely.

However, there was quiet a different condition in the patient's inferior peripheral cornea. Under the slit-lamp examination, there is a bend below the inferior paracentral corneal thinning. Below the bend, there is a thin region near the limbus. Topography reveals a flat area surrounded by steep circle in the inferior peripheral zone of cornea. Hence, early PMD in the peripheral cornea was suspected in our case.

Keratoconus combined with PMD was reported before, but it is rare.⁵ Kayazawa *et al*⁵ has ever reported only 17 cases with PMD in 1625 Japanese keratoconus patients, and the prevalence in Caucasians is lower than that. In their series, no superior keratoconus with PMD was found.

There are other diseases that may result in superior corneal ectasia, but the patient did not have corneal inflammation, vascularization, scarring, or lipid

Figure 1 (a and b) The Orbscan topography in the right eye (a) and left eye (b). Disparity was noted between the anterior and posterior corneal surface elevations: anterior corneal elevation was located superiorly (left upper) and posterior corneal elevation was located inferiorly (right upper). The thinnest point was near the posterior elevation area (right lower). In keratometric map (left lower), there was a well-defined superior steep area, with the rule astigmatism and an asymmetric bow-tie configuration in upper $\frac{2}{3}$ cornea, and a relatively flat area surrounded by relatively steep circle in the lower $\frac{1}{3}$ cornea.



deposition or other signs of Terrien's degeneration, Mooren's ulcer, or systemic autoimmune disease. The absence of senile arcus and juxalimbal corneal thinning also ruled out senile marginal degeneration. However, the patient was young and without ptosis and there was a real corneal thinning, so ptosis induced superior keratoconus like topographic appearance was unlikely.

References

- Auffarth GU, Wang L, Volcker HE. Keratoconus evaluation using the orbscan topography system. J Cataract Refract Surg 2000; 26: 222–228.
- 2 Cameron JA, Mahmood MA. Superior corneal thinning with pellucid marginal corneal degeneration. *Am J Ophthalmol* 1990; **109**: 486–487.
- 3 Taglia DP, Sugar J. Superior pellucid marginal corneal degeneration with hydrops. *Arch Ophthalmol* 1997; **115**: 274–275.
- 4 Bower KS, Dhaliwal DK, Barnhorst DA, Warnicke J. Pellucid marginal degeneration with superior corneal thinning. *Cornea* 1997; 16: 483–485.
- 5 Kayazawa F, Nishimura K, Kodama Y, Tsuji T, Itoi M. Keratoconus with pellucid marginal corneal degeneration. *Arch Ophthalmol* 1984; **102**: 895–896.

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Sir,

Furuncular myiasis of the face caused by larva of the Tumbu fly (*Cordylobia anthropophaga*)

Myiasis is the infestation of any part of the body by fly larvae, and furuncular lesions may result when the skin is affected. We report a patient with furuncular myiasis of the face, who was initially misdiagnosed as dacryocystitis.

Case report

A 39-year-old caucasian man presented to the emergency department with a 5-day history of swelling and redness under his left eye. This had started from a small red spot, and was associated with a dull ache and watering by the time of presentation.

There was no history of systemic malaise, trauma, or bites. He had just returned from travelling in Angola, and it was before returning to the UK that he first noticed the red spot. He was diagnosed with dacyrocystitis in the emergency department, and referred for incision and drainage of the presumed abscess. He was apyrexial, and in the middle of the indurated area there was a white central plug oozing a clear discharge. After infusing 2% lidocaine (lignocaine) with adrenaline (1:80000) a live and mobile larva was removed in its entirety from the central pore; it was later identified as *Cordylobia anthropophaga* (Figures 1 and 2). Further similar lesions were subsequently found on his right thigh and left buttock.

Comment

C. anthropophaga (also known variably as Tumbu fly, Mango fly or Ver du Cavor) is endemic in tropical Africa.¹ The female fly lays its eggs in soil (usually sandy soil contaminated by faeces or urine) or on wet clothes, from which primary larvae emerge after about 2 days. These are able to penetrate unbroken human or animal skin and then develop into secondary and subsequently tertiary larvae within the dermis. While developing they maintain a breathing pore in the skin through which they emerge when fully mature. At this stage, they may be up to 1.5 cm in length. Having dropped out of the breathing pore, they pupate to form the adult fly.



Figure 1 After infusing 2% lidocaine with adrenaline (1:80000), the head of the larva became evident through the central pore.

