Clonic Orbscans and Tropicamidé

To the Editor: We have previously shown that the Orbscan (Bausch & Lomb, Rochester, New York) was unable to map the corneal surfaces in eyes with shallow anterior chambers, displaying a clonic quad map, and that the clonic quad map disappeared after YAG iridotomy.1 We now report a case of clonic quad map with Orbscan in a patient with shallow anterior chambers that resolved after pupillary dilation.

A 42-year-old woman underwent ocular examination, which revealed no pathology except for shallow anterior chambers and narrow angles. Ocular refraction was +3.25 – 2.50 × 30° in the right eye and +2.50 – 1.50 × 140° in the left eye. Corrected distance visual acuity was 20/30 in the right eye and 20/20 in the left eye.

Corneal topography in the right eye was measured using Orbscan II (Fig 1) and the anterior elevation best-fit sphere map was repeated in three of the four quadrants (“clonic” quad map, with three of the four maps the same) instead of displaying the “usual” quad map (four different maps). The test was then repeated using the same device and using a different Orbscan device with identical results. The program was able to display keratometric axial and tangential power maps, the Placido image, and the anterior float map. However, no other maps could be obtained, and the device was unable to detect anterior chamber depth, corneal thickness, or angle kappa.

Orbscan II showed the usual quad map in the left eye. However, although the anterior chamber was shallow in the slit-lamp examination, Orbscan overestimated the measurement (4.02 mm). In addition, the angle, although possible, did not seem to be occluded (Shaffer 2). Both pupils were dilated with one drop of tropicamide 1%.

A new Orbscan II examination was performed and the usual quad map (four different maps) was observed in the right eye (Fig 2). In both eyes, the anterior chamber distance was shallow (1.82 mm and 1.86 mm in the right and left eyes, respectively).

Pérez Silguero et al2 published a similar case report, in which a clonic quad map image was obtained in a middle-aged woman with a shallow anterior chamber. After laser YAG iridotomy, Orbscan II showed the “usual” quad map.

The topical agent tropicamide 1% is applied to paralyze the ciliary muscle and thus enables the anterior chamber to deepen.3 In the case presented herein, its instillation made the clonic quad map disappear and enabled Orbscan II to produce the usual quad map in a patient with shallow anterior chambers.

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