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CORRESPONDENCE

Sir,

Pupillary distortion and staphyloma following trans-scleral contact diode laser cyclophotocoagulation: a clinicopathological study of three patients

We read with interest the article by Bhola *et al*.[1] Trans-scleral contact diode laser cyclophotocoagulation (TCDLC) has been used in eyes with refractory glaucomas that have received multiple filtering operations.[2,3] Bhola reported the serious complications of TCDLC, staphyloma and scleral thinning. All three eyes in his series had pathology, previous radiotherapy, or previous surgery before TCDLC. Distortion of anatomy, scleral thinning after radiotherapy, or scarring from previous surgery could have increased the risk of these complications. Whether these complications could occur to any significant extent in glaucoma eyes without other pathologies and no previous surgery is still uncertain.

Egbert *et al* have reported the use of TCDLC as primary surgical treatment for primary open-angle glaucoma in 92 eyes of 92 patients.[4] In their series, there was not a single case of staphyloma or scleral thinning. We have used TCDLC as primary surgical treatment for primary angle-closure glaucoma in nine patients (unpublished data). A laser power of 2.0–2.4 W (mean 2.1 W) and a duration of 1 second were used to achieve an audible 'pop' sound. The inferior 270° quadrant was treated in all cases. Good intraocular pressure reduction was achieved in all nine cases. Amongst these nine cases, one developed pupillary distortion, but none had staphyloma or scleral thinning. We have performed dilated fundoscopic examination and / or B-scan sonography of all nine cases after 3 months of follow-up.

From these data, it appears that non-operated glaucomatous eyes without other pathology are at lower risk of developing staphyloma or scleral thinning. However, in eyes with pre-existing pathology in addition to the glaucoma, and eyes with previous irradiation or surgery, we should adopt all the precautions suggested by Bhola to minimize the chance of staphyloma and scleral thinning.

We agree with the first two precautions suggested by Bhola. In our daily practice, particular attention is paid to avoid placing the G-probe over a pterygium, which is prevalent in south-east Asia. Higher power is often required to achieve a 'pop' sound over these areas. Moreover, they are vascular lesions and may absorb significant laser energy to cause local tissue damage. We do not, however, perform routine transillumination or ultrasound biomicroscopy in eyes with no previous history of pathology or intervention, as normal anatomy is expected in these non-operated eyes.

With the right precautions, TCDLC can be a very safe and effective procedure. In future, we should perhaps explore the role of TCDLC as primary surgical treatment for glaucoma. We may not need to limit its use to eyes with refractory glaucomas with repeated failed surgery.

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