Negative dysphotopsia after temporal corneal incisions

David L. Cooke, MD

Temporal incisions made during cataract extraction have been purported to cause negative dysphotopsia. A case in which negative dysphotopsia occurred after superior scleral tunnel incisions is described. The dystopsia symptoms resolved immediately after intraocular lens exchange using temporal corneal incisions.

Financial Disclosure: The author has no financial or proprietary interest in any material or method mentioned.

The causes of negative dysphotopsia have been elusive. Osher divided symptomatic patients by how long the symptoms lasted—short term or long term. A temporal incision was incriminated in both types of symptoms because the incisions in all symptomatic patients were only partially covered by the eyelid. Osher also found that all patients with long-lasting symptoms had a unique anatomic predisposition as they had prominent globes and dark irides. I present a case in which complaints of bilateral negative dysphotopsia occurred with superior incisions and disappeared after bilateral intraocular lens (IOL) exchange via temporal incisions despite the patient having blue irides, normal orbits, and normal exophthalmometry.

CASE REPORT

A 67-year-old man had uneventful phacoemulsification with in-the-bag implantation of a 22.5 diopter (D) SN60AT IOL (Alcon, Inc.) in the right eye on February 19, 2007. Three weeks later, a similar uneventful procedure with a 21.5 D SN60AT IOL was performed in the left eye. In both eyes, the scleral tunnel incisions were located at the 10:30 o’clock position. They were entirely covered by the upper lid (Figure 1).

One week after the second procedure, the corrected distance visual acuity (CDVA) was 20/20 in both eyes with a correction of $-1.25 + 1.00 \times 25$ in the right eye and $-0.50 + 0.75 \times 145$ in the left eye. The patient complained of a “shadow crescent” to the temporal side just past the outside edge of the frame of the prescribed spectacles in both eyes. Two months later, he continued to complain of this.

Six months later, bilateral IOL exchange was performed because the temporal crescents were “very bothersome.” The patient complained of “blinders” on both sides temporally. If he put his hands to the side of each eye, the shadow went away.

The IOL in the left eye was exchanged with a 21.0 D AQ-2010V IOL (Staar Surgical, Inc.) placed in the bag through a clear corneal temporal incision. One week postoperatively, the patient stated that he was “seeing much better.” The CDVA was 20/20 with $-0.75 + 1.00 \times 149$.

Three weeks later, a blinder or crescent was on the temporal side of the right eye only. The CDVA was 20/20 in both eyes. In late November, the IOL in the right eye was exchanged with a Staar AQ-2010V IOL implanted in the bag. A temporal clear corneal incision was again used (Figure 2), and the symptoms again resolved immediately after surgery.

Although it has been proposed that long-lasting negative dysphotopsia is more likely to occur in combination with a prominent globe, brown irides, and shallow orbital anatomy, this patient had none of these (Figure 3). The Hertel exophthalmometry readings were 13.0 mm to 13.5 mm in both eyes, and the irides were blue.

Eleven months after the first surgery, the patient’s only complaint was that he was seeing floaters. The
CDVA was 20/20 in both eyes with a correction of $-1.25 + 1.25 \times 22$ in the right eye and $-0.75 + 1.00 \times 148$ in the left eye. Both IOLs were in the bag.

**DISCUSSION**

Osher\(^1\) has studied the causes of negative dysphotopsia. He divided his findings into those with short-term symptoms and long-term symptoms. He believed the short-lived symptoms were incision related.

However, the incision also appeared to be incriminated in the long-term symptoms because no dysphotopsia symptoms occurred in patients with incisions that were completely covered. The case reported here shows that not all cases of negative dysphotopsia are due to temporal incisions because the symptoms occurred with scleral tunnel incisions and resolved immediately after IOL exchange with temporal incisions.

Osher also found shallow orbits and brown eyes in all the patients with long-term symptoms. In my case, the symptoms lasted more than 6 months despite the patient having blue eyes, normal orbits, and normal exophthalmometry. More study is needed to fully understand the causes of negative dysphotopsia.

**REFERENCE**


First author:
David L. Cooke, MD
Private practice,
St. Joseph, Michigan, USA