We present a previously unreported positive dysphotopsia of an alternating green and red diagonal line after developing posterior capsular folds following uneventful cataract surgery and its management. A 73-year-old man presented complaining of seeing multicolored ray of light obliquely across luminous sources from his left eye 3 weeks after phacoemulsification. He was found to have 3 folds on the posterior capsule, which were perpendicular to the axis of the line of the red and green rays. This was managed with routine Nd:YAG laser posterior capsulotomy, after which his symptoms instantly resolved. To our knowledge, there is no other published report of this multifaceted visual aberration due to posterior capsular folds. Through our case, we highlight that a thorough examination can find a simple solution for a seemingly complex presenting complaint and can avoid unnecessary investigations and invasive procedures.

DISCUSSION

Posterior capsular folds can commonly occur after phacoemulsification and may lead to the development of posterior capsular opacifications and visual disturbances. The optical aberrations caused by folds on its own as opposed to secondary opacification are uncommon and may be overlooked.
Although the phenomenon of seeing a perpendicular ray secondary to folds has been reported before, the prismatic effect leading to a multicolored beam has not. We believe that the uniquely multiple oblique folds of the capsule in our subjects may have induced a Fresnel prism effect (Figure 4) with additional chromatic aberration causing the alternating red-green lines across the diagonal. As there were multiple folds, they could act as multiple prisms creating a line perpendicular to the prisms. Because they were central and likely sitting near the nodal point, there was minimal displacement of the image and so there was no diplopia. The identification of the folds as the cause of visual disturbance played an important factor in terms of further investigation and patient management. Visual disturbance after phacoemulsification is often a cause for concern because it can be indicative of a postoperative complication. When there is no obvious pathology seen, such as cystoid macular edema or postoperative inflammation, it can be difficult to discern why the patient is experiencing difficulties with their vision. It may have been assumed at this point that our patient had a positive dysphotopsia, which is related to the intraocular lens shape and position. Assuming it was a positive dysphotopsia could have led to inappropriate use of the Nd:YAG to laser the anterior capsule or more invasive measures such as inserting a piggyback intraocular lens or even a lens exchange.

To avoid issues with posterior folds, we suggest that if folds are seen during the operation, fluid is injected until the folds are flattened. It is also important to ensure that the wounds are sealed sufficiently, so there is no leak and subsequent development of folds.

To our knowledge, there is no other report of a patient having this particular visual phenomenon and chromatic aberration after phacoemulsification. Through our case, we highlight that a thorough examination can find a simple solution for a seemingly complex presenting complaint and can avoid unnecessary investigations and invasive procedures.
WHAT WAS KNOWN

- Patients can have dysphotopsias after seemingly uneventful cataract surgery leading to dissatisfaction despite a good refractive outcome.
- These can be difficult to treat and may lead to invasive procedures such as intraocular lens exchange to try and resolve the visual disturbance.

WHAT THIS PAPER ADDS

- A new type of dysphotopsia, a multicolored line caused by posterior folds, was treated simply with YAG capsulotomy.
- The cause of the dysphotopsia and how it might be avoided is discussed.

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