Treatment options for myopic CNV - Is photodynamic therapy still relevant?

Dear Sir,

We read with interest the article by Manayeth *et al*.[1] describing the use of low-fluence photodynamic therapy (PDT) to successfully treat a patient who developed myopic choroidal neovascularization (CNV) following laser *in situ* Keratomileusis (LASIK), as well as the comment by Gopal[2] on the efficacy of anti-vascular endothelial growth factor (anti-VEGF) agents compared to PDT in the treatment of CNV.

The Ranibizumab and PDT [verteporfin] evaluation in myopic choroidal neovascularization (RADIANCE) study,[3] a randomized controlled trial comparing ranibizumab against verteporfin PDT for the treatment of myopic CNV, reported that ranibizumab treatment provided superior visual acuity (VA) gains compared to PDT. In addition, among the non-randomized studies published in the literature, patients with myopic CNV treated using anti-VEGF agents were reported to have better mean VA compared to patients treated with PDT.[4]

However, we would like to highlight that PDT may result in good visual outcomes in carefully selected patients, especially those with extrafoveal CNV lesions where the laser spot can be adjusted to spare the fovea. In a study of 24 eyes with myopic CNV,[5] we found that among patients who were treated with foveal-sparing PDT, 77.8% achieved VA of ≥ 20/40, with a mean final logMAR VA of 0.26. An additional factor influencing the outcome is size of the myopic CNV lesion. Tan *et al*.[4] reported that myopic CNV lesions with a greatest linear diameter (GLD) of ≤ 1000 μm had better outcomes compared to those with larger GLD. While we acknowledge the difficulty of making direct comparisons of results from different studies, it is interesting to note that the visual outcomes in our study were comparable to, or in some cases better than, those reported from studies using anti-VEGF agents.[5]

Anti-VEGF agents are associated with systemic risks such as cerebrovascular accidents and other arterial thromboembolic events, especially for patients with pre-existing disease.[5] In addition, intravitreal injections carry the risk of infectious endophthalmitis.[5] Some patients are unwilling to accept either the systemic or ocular risks associated with anti-VEGF agents, and for them, PDT may be a valuable modality of treatment.

In conclusion, ophthalmologists may wish to consider PDT in cases where the fovea can be spared, and where anti-VEGF agents are unsuitable or unacceptable to patients. It has been shown that extrafoveal CNV lesions occur in between 18.5 and 32% of myopic CNV patients.[5] Therefore, we believe that PDT may still have a useful role in the management of myopic CNV, if patients are carefully selected.

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