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Sir,

Bilateral intraocular inflammation after intravitreal bevacizumab in Behcet's disease

Intravitreal bevacizumab (IVB) may cause severe inflammation in the injected eye, with an incidence of 0.14% of patients.[1] We report a case of bilateral intraocular inflammation in a patient with Behcet's disease following IVB.

Case report

A 35-year-old man with Behcet's disease was given an initial intravitreal injection of 1.25 mg bevacizumab in his left eye for the treatment of cystoid macular oedema, which had persisted for 3 months despite systemic corticosteroids and immunosuppressive agents. Before the injection, uveitis was in remission and visual acuity (VA) was 20/20 (R) and 20/400 (L). One day after the injection, he noticed severe ocular pain and redness in the left eye. By the next day, he experienced ocular discomfort and cloudy vision in the right eye as well. VA decreased to 20/25 (R) and counting fingers (L). Slit-lamp examination revealed 4+ anterior chamber (AC) and 4+ vitreous cells with multiple keratic precipitates in the left eye, and 2+ AC and trace vitreous cells in the right (Figure 1). Hypopyon was not observed in either eye. He was treated with oral prednisolone (20 mg) and cyclosporin (100 mg) combined with topical prednisolone acetate 1%. Within 2 weeks the symptoms significantly improved, with VA improving to 20/20 (R) and 20/63 (L). After gradual tapering of medications, VA and inflammation remained stable at 1-month follow-up.

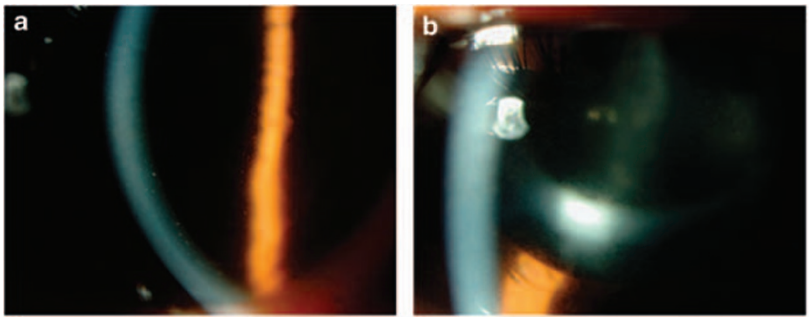

Figure 1 Slit-lamp photographs after intravitreal bevacizumab. (a) Right eye, multiple endothelial keratic precipitates with 2+ anterior chamber cells. (b) Left eye, cloudy with 4+ anterior chamber cells and 4+ vitreous cells. Patient consent: Informed consent was obtained for the publication of figures.

Comment

The aetiology of inflammation after IVB is unclear and its relationship to the bevacizumab molecule is also questionable.[2] Bevacizumab potentially has an immunogenic property with full-length IgG antibody, and a history of uveitis with high immunogenic disposition may be a risk factor for inflammation after IVB.[3]

A recent study detected small amounts of bevacizumab in the serum and the fellow eye (primarily in the aqueous humour) after IVB.[4] These findings suggest that intraocular bevacizumab can reach the fellow eye through systemic circulation, possibly causing inflammation in that. The fact that, in our case, inflammation of the fellow eye was predominantly in the AC with less severity and developed only later following IVB, supports this possibility.

In conclusion, bilateral intraocular inflammation after unilateral IVB may develop in patients with uveitis. The intraocular inflammation can be distinguished from infectious endophthalmitis by the bilateral involvement, absence of hypopyon, and clinical improvement over time.

References

1 Fung AE, Rosenfeld PJ, Reichel E. The International Intravitreal Bevacizumab Safety Survey: using the internet to assess drug safety worldwide. *Br J Ophthalmol* 2006; **90**: 1344–1349.

2 Wickremasinghe SS, Michalova K, Gilhotra J, Guymer RH, Harper CA, Wong TY *et al.* Acute intraocular inflammation after intravitreous injections of bevacizumab for treatment of neovascular age-related macular degeneration. *Ophthalmology* 2008; **115**: 1911–1915.

3 Bakri SJ, Larson TA, Edwards AO. Intraocular inflammation following intravitreal injection of bevacizumab. *Graefes Arch Clin Exp Ophthalmol* 2008; **246**: 779–781.

4 Bakri SJ, Snyder MR, Reid JM, Pulido JS, Singh RJ. Pharmacokinetics of intravitreal bevacizumab (Avastin). *Ophthalmology* 2007; **114**: 855–859.

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