Sir,
Progression of diabetic tractional retinal detachment following single injection of intravitreal Avastin
Vascular endothelial growth factor (VEGF) has been implicated in retinal angiogenesis. Bevacizumab is a humanized recombinant antibody that binds all isoforms of VEGF with promising results in patients with proliferative diabetic retinopathy (PDR).¹

Case report

A 55-year-old diabetic woman presented with reduced vision in the right eye. On examination, visual acuity on the right was 6/12 and fundoscopy revealed bilateral PDR with vitreous haemorrhage and tractional retinal detachment (TRD) threatening the macula in the right eye. (Figure 1) Patient declined surgery and panretinal

Figure 1 Tractional retinal detachment along the superotemporal vascular arcade extending temporal to the macula (arrows).

Figure 2 Progression of tractional retinal detachment involving the macula (arrows), seven days following the injection of Avastin.

photocoagulation was applied followed by intravitreal injection of 1.25 mg of bevacizumab. Seven days later, despite regression of neovascularization, visual acuity in the right eye deteriorated to 6/36 with TRD progressing to involve the right fovea (Figure 2). The patient underwent pars plana vitrectomy with delamination of the fibrovascular tissue. The retina was reattached and visual acuity improved to 6/12.

Comment

Intravitreal bevacizumab has been recently introduced as an off label adjunct for the management of severe PDR, achieving angiographic regression of new vessels within 24–48 h following injection.^{1–3}

Although bevacizumab is a relatively safe agent, there have been reports of macular detachment following its injection in diabetic patients (Unpublished data, Flaxel CJ, Club Jules Gonin, Cape Town, 2006). We have also observed that regression of the neovascular element of fibrovascular complex was often accompanied by excessive proliferation of fibrous tissue. In our case, there was significant progression of pre-existing TRD resulting in macular detachment approximately 1 week after the injection of bevacizumab.

The mechanism is uncertain; however, this unfavourable response could be related to an undue contraction of pre-existing fibrovascular membrane. Another speculation supports that the intravitreal injection itself may be implicated in the development of TRD, since vitreoretinal traction may be associated with globe deformation, vitreous syneresis, and possible vitreous incarceration at the injection site.

Although Avastin appears to be an effective adjunct, caution should be exercised before its use for the management of severe PDR. We suggest that anti-VEGF agents may be avoided when there is an evidence of fibrovascular tissue adjacent to the macula as this could potentially lead to macular detachment requiring unplanned surgical intervention.

References

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