

# Occluded twice over but lucky: report of concealed macular branch retinal vein occlusion

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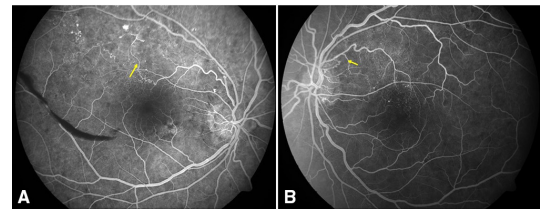
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## DESCRIPTION

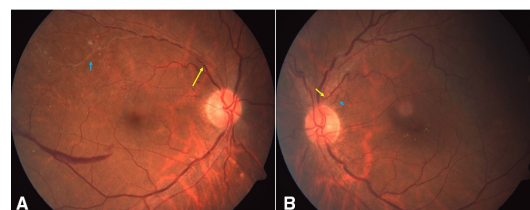
A 56-year-old man presented to our clinic with floaters in right eye for 3 months. The best corrected visual acuity at presentation was 20/20 both eyes (OU). The intraocular pressures were 12mm Hg right eye (OD) and 13mm Hg left eye (OS) with unremarkable anterior segment OU. His past history was suggestive of type 2 diabetes and hypertension of 3 years' duration. Dilated fundus examination OD showed tortuous superotemporal retinal veins, focal venous constriction at the site of occlusion, sclerosed vessels, collaterals, neovascularisation elsewhere (NVE), flame-shaped haemorrhages in the superotemporal periphery and streak preretinal blood at inferotemporal macula (figure 1A). The fundus of left eye revealed features of vascular compensation (a point of focal narrowing of the branch vein with development of collaterals) in superotemporal macula (figure 1B). Fundus fluorescein angiography (FFA) OD revealed delayed filling of occluded retinal vein, areas of capillary non-perfusion, NVE and the presence of collaterals (figure 2A). FFA of left eye confirmed the presence of collaterals and discontinuous foveal avascular zone (FAZ) margin (figure 2B). Optical coherence tomography (OCT) of both eyes was devoid of cystoid macular changes and all the retinal layers were discernible (figure 3A,B). Based on above clinical and imaging findings, a diagnosis of proliferative branch retinal vein occlusion (BRVO) OD and compensated superior macular BRVO OS was made. In view of extensive capillary non-perfusion and neovascularisation, the right eye was treated with superotemporal sectoral laser photocoagulation.

After diabetic retinopathy, retinal venous occlusion constitutes the second most common cause of retinal vascular disease.<sup>1</sup> Most cases of branch vein occlusion (BVO) are unilateral, however, bilateral BVO was reported in 0.04% of subjects in a 15-year follow-up study.<sup>2</sup> The rate of development of venous

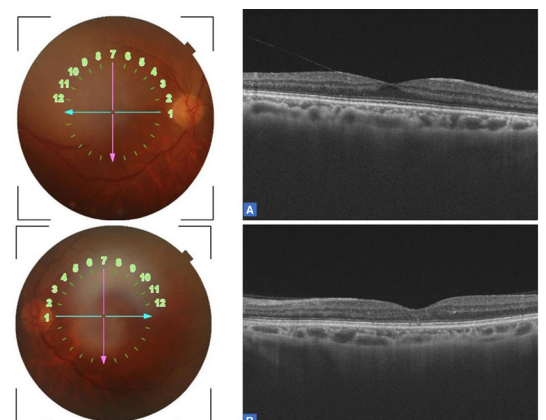


**Figure 2** Fundus fluorescein angiography image in venous phase OU shows branch retinal vein occlusion with collaterals (yellow arrow).

occlusion in the fellow eyes among the unilateral BVO cases was reported to be 1.5% per year.<sup>3</sup> Macular BRVO presents with an acute painless blurring of vision and visual field defect when associated with cystoid macular oedema and intraretinal haemorrhage. Floaters due to vitreous haemorrhage may appear late when complicated with neovascularisation.<sup>4</sup> Spontaneous resolution of macular oedema occurs in about 50% of patients within a year.<sup>5</sup> In a study, Hayreh *et al* reported that after the resolution of macular oedema, visual acuity improved in 58% of eyes with macular BRVO.<sup>5</sup> Enlargement and disruption of foveal avascular zone is common to BRVO and most often correspond to vision loss.<sup>6</sup> In our case fortuitously apart from the FAZ disruption, vision loss was never part of the patient's complaint nor OCT findings were suggestive of macular involvement. We presume that our patient either had no associated macular oedema or had spontaneous resolution of a mild oedema. In the age of early and aggressive treatment of macular oedema in BVO,<sup>7</sup> the incumbent case stands testimony to the self-limiting course of this disease despite having angiographic evidences of ischaemia.



**Figure 1** (A) Colour fundus photo of right eye shows focal narrowing of retinal vein (yellow arrow) with sclerosed vessels (blue arrow) and preretinal blood. (B) Venous occlusive features in left eye (yellow arrow) with development of collaterals (blue arrow) implies vascular compensation.



**Figure 3** Optical coherence tomography of right (A) and left eye (B) shows normal retinal architecture.



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Patient's perspective

I am happy that my disease could be diagnosed at early stages and appropriate treatment was given to prevent future complications.

Learning points

- ▶ Detailed dilated fundus examination is mandatory in the fellow eye of the eyes with retinal venous occlusion. If in doubt, fundus fluorescein angiography is recommended.
- ▶ Branch vein occlusion study inferred that macular oedema secondary to BVO recovers spontaneously in 37% of subjects.
- ▶ In cases with mild vision loss observation alone may not lead to major vision impairment.

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