



Normal intraocular pressure in an eye with central retinal vein occlusion does not rule out associated glaucoma

The Science behind the Tip

Ocular hypertension (OH) and primary open-angle glaucoma (POAG) are strongly associated with (hemi)central retinal vein occlusion ((H)CRVO)¹. Increased intraocular pressure (IOP) and/or extensive cupping of the optic disc might predispose to (H)CRVO by producing venous collapse, displacement of retinal venous trunks and stasis in the central retinal vein^{1,2}.

It is important to know that CRVO in eyes with undiagnosed OH or POAG is very often associated with an unexplained higher fall in IOP (by 5 to 10 mm Hg or more) than in nonglaucomatous eyes at the time of diagnosis of the CRVO³. One should thus carefully check for OH or POAG in the fellow eye, even when IOP in the involved eye is normal or low.

If IOP is elevated in the fellow eye, it is recommended to start hypotensive treatment in this eye, to reduce the risk for CRVO in it as well as to prevent glaucomatous damage³. There may however be no benefit of treating the involved eye in which IOP has already normalised, as evidence that this could improve retinal blood flow is lacking⁴. This eye needs however also to be watched as IOP may rise again with time.

References

1. Beaumont PE, Kang HK. Cup-to-disc ratio, intraocular pressure, and primary open-angle glaucoma in retinal venous occlusion. *Ophthalmology*. 2002;109:282-6.
2. Hitchings RA, Spaeth GL. Chronic retinal vein occlusion in glaucoma. *Br J Ophthalmol*. 1976;60:694-9.
3. Hayreh SS, Zimmerman MB, Beri M, Podhajsky P. Intraocular pressure abnormalities associated with central and hemicentral retinal vein occlusion. *Ophthalmology*. 2004;111:133-41.
4. Hayreh SS. Blood flow in the optic nerve head and factors that may influence it. *Prog Retina Eye Res*. 2001;20:595-624.