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Macular Society
Beating Macular Disease

Retinal Vein Occlusion (RVO)

Retinal vein occlusion is a blockage of a retinal vein. It is a common cause of sudden painless reduction in vision in people over 60. The blockage of a vein causes blood and other fluids to leak into the retina, which causes damage that reduces vision.

Types of retinal vein occlusion

1. Branch Retinal Vein Occlusion (BRVO) is due to an obstruction of one of the four retinal veins.

2. Central Retinal Vein Occlusion (CRVO) is due to obstruction of the main vein formed from the four branches which drain blood from the retina. This type generally causes more severe vision loss.

Conditions that make RVO more likely include: high blood pressure; high cholesterol; glaucoma; diabetes; smoking; and certain rare blood disorders. Treatment of the risk factors dramatically reduces the risk of a further vein occlusion.

Diagnostic tests

- Optical coherence tomography (OCT) scans measure retinal swelling (macular oedema).
- Fluorescein dye angiography. A dye injected into a vein in the arm travels to the eye, highlighting the blood vessels in the retina and demonstrating the location and extent of the occlusion and any secondary complications that may have developed.

Treatment

1. Anti-VEGF injections (Eylea, Lucentis) or steroid implants (Ozurdex) injected into the eye is used to treat RVO. The injections have to be repeated over a period of time to work effectively.

Injection treatment aims to stabilise or improve vision. About 45-55% of patients treated with anti-VEGF injections experience a significant gain in vision. Steroid implants achieve a significant gain in vision in up to 30% of patients. 20-30% of patients experience no improvement in vision treatment.
Laser treatment may be used to treat branch retinal vein occlusions.

Observation or monitoring is an option for people who prefer not to have treatment for macular oedema. Branch retinal vein occlusions have a better chance of natural resolution than central retinal vein occlusions. However treatment has been shown to achieve the best results.

2. Abnormal new blood vessel growth (neovascularisation)
About 20% of patients with RVO develop abnormal blood vessels that can bleed or increase pressure in the eye, leading to further loss of vision.
This can normally be prevented by laser treatment to stabilise and preserve the condition of the eye, but not improve vision.

Follow-up

Patients with CRVO may be reviewed every four to eight weeks for about six months and then less frequently. The clinician will decide appropriate follow up intervals depending on the severity of the CRVO. Most patients are discharged after one to two years.