



Clinical Guideline for the treatment of **SUSPECTED RETINAL VEIN OCCLUSION**

DESCRIPTION

Retinal vein occlusion causes painless decrease in vision, and blurred vision.

A retinal vein occlusion occurs when small veins in the retina become blocked. The blockage can damage the blood vessels of the retina, the layer of tissue at the back of the inner eye that converts light images to nerve signals and sends them to the brain.

There are two types of retinal vein occlusion:

- Branch retinal vein occlusion (BRVO) affecting a branch of the central retinal vein
- Central retinal vein occlusion (CRVO) affecting the central retinal vein

There are a number of causes of retinal vein occlusion and these can include:

- High blood pressure
- Diabetes
- Blood disorders
- Glaucoma
- Trauma
- Detection

HOW TO ASSESS

RAPD, gonioscopy to assess for neovascularization of iris (NVI)/ neovascularization in angle (NVA), IOP

Dilated exam

- Classify as CRVO or BRVO:
- Classify as macular branch retinal vein occlusion (BRVO) if confined to within arcades, major BRVO if major superotemporal (ST) or inferotemporal (IT) tributary involved or as hemi-retinal vein occlusion (HRVO) if both nasal and temporal quadrants involved superiorly or inferiorly.
- Classify as central retinal vein occlusion (CRVO) if all four quadrants are involved.

- Presume ischaemic if any of the following:
 1. VA 6/60 or worse
 2. Relative Afferent Pupillary Defect (RAPD)
 3. Extensive deep dark haemorrhages
 4. Multiple cotton wool spots (CWS)
- Look for signs of glaucoma/ocular hypertension (OHT):
- Always assess optic nerve heads for signs of glaucoma in either eye as this is a major risk of RVO.
- Imaging in EED:
 1. OCT both eyes – look for macular oedema.
 2. Optos colour photos both eyes to document findings.

Investigations in ED

1. Check BP and capillary blood sugar in A&E and refer uncontrolled BP or blood sugar appropriately for medical management.
2. **Request GP** to perform 24-hour BP monitor and FBC, U&E, fasting lipids and glucose (if not known diabetic), HbA1C if known diabetic.
3. Thrombophilia screening is not indicated.

Consider differential diagnosis

1. Ocular Ischaemic Syndrome (OIS): mid peripheral dot/blot haemorrhages, veins dilated but not tortuous, central retinal artery (CRA) may be easily collapsible with light digital pressure on globe.
→ Book urgent **Carotid doppler** ultrasound if suspect OIS and refer **urgently** via direct slot to MR within 1 week.
2. Blood dyscrasias
3. Hypertensive retinopathy – refer uncontrolled BP for medical management.
4. Diabetic retinopathy
5. RVO associated with posterior uveitis – assess for signs of intraocular inflammation and refer to **uveitis service** if present.

IOP management in EED

1. Manage high IOP in A&E.
2. Treat OHT if present - ?avoid prostaglandin analogues in view of possible cystoid macular oedema (CMO).
3. If suspicious discs/OHT – send letter of referral to glaucoma service.

FOLLOW-UP

Referral for further management

Ischaemic CRVO (iCRVO) with NVI/NVA or IOP >30mmHg at presentation or corneal oedema:

- Urgent direct appointment with glaucoma *and* MR service within 1 week. Discuss with relevant teams.

Ischaemic CRVO with no signs of NVI/NVA:

- Urgent direct appointment with MR service within 2 weeks.

Presumed non-ischaemic CRVO (none of above suspicious feature for iCRVO):

→ Direct referral to MR service within 4 weeks.

BRVO with macular oedema:

→ Direct appointment with MR within 4 weeks. If fellow eye BCVA <6/12, direct appointment within 2 weeks.

BRVO with no macular oedema:

→ Letter of referral to MR service for triage.

BRVO with suspected NVs or VH:

→ Discuss with VR if significant vitreous haemorrhage (VH) or obscured view.

→ Direct appointment with MR service within 2 weeks if no VR intervention planned.