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SAVRS consensus guideline: management of retinal vein occlusion:

The academic advisory committee of the South African Vitreoretinal Society (SAVRS) would like to record their concern about the lack of guidelines for the treatment of retinal vein occlusion. The committee would like to record the following points:

1. Retinal vein occlusion (RVO) is a common cause of visual loss in the Western world. RVO is the second most common cause of reduced vision due to retinal vascular disease, just after diabetic retinopathy with branch retinal vein occlusion (BRVO) occurring 2-3 times more often than central retinal vein occlusion (CRVO). It is a chronic condition and may require life-long management. It is a PMB condition (H 34.8)
2. Up until recently the standard of care for branch retinal vein occlusion associated macular oedema was grid laser photocoagulation. Observation was indicated for central retinal vein occlusion associated macular oedema and neovascularisation was treated with panretinal photocoagulation.
3. The development of intravitreal pharmacotherapy has established the benefit of anti-vascular endothelial growth factor (VEGF) agents and corticosteroids for the treatment of RVO associated macular oedema. The intravitreal use of registered agents such as ranibizumab (Lucentis) and a sustained release dexamethasone implant (Ozurdex), along with the off label use of bevacizumab (Avastin) and preservative free triamcinolone has changed the treatment and replaced the current standard of care for retinal vein associated macular oedema.
4. Scattered laser photocoagulation remains the standard of care to prevent neovascular complications, although anti-VEGF agents can also help induce rapid regression of neovascularisation.
5. Lucentis is registered internationally and locally by the MCC for the treatment of macular oedema due to retinal vein occlusion.
6. Avastin carries international registration and MCC registration for the treatment of carcinoma of the colon but is not registered for use in the eye. The use of Avastin for the management of macular oedema due to vein occlusion is therefore an off label use. The SAVRS would like to emphasize that although the use of Avastin for the treatment of macular oedema due to vein occlusion is in widespread practice internationally due to its price, the decision to use Avastin is often dictated by funding/funders and may not be the first choice of the treating surgeon. There is currently no equivalent to the CATT Study as in AMD to provide information on the equivalent efficacy of Avastin and Lucentis in vein occlusion associated macular oedema. However, the SAVRS believes there is sufficient literature, including the articles attached to vouch for the equivalent efficacy and safety of these two agents.
7. Avastin is packaged in a single, sterile vial for use as an intravenous agent. The fluid contents of each vial are commonly compounded into smaller quantities in order to make the unit cost more affordable. Unlike foreign countries where Avastin is used and compounding pharmacies undertake the process of preparing the units under strict aseptic conditions, equivalent compounding facilities do not exist widely in South Africa, therefore forcing pharmacists and surgeons to perform the compounding process themselves. In the absence of a compounding pharmacy, the SAVRS recommends the compounding is performed under sterile

conditions in the operating theatre or a laminar flow hood suitable for the preparation of sterile intravenous medications.

8. Compounding costs are expected to vary among centres and with different usage patterns, facility costs and other economic determinants.
9. The SAVRS would like to record its concern that the clinical (and indeed medicolegal) responsibility for treating macular oedema due to vein occlusion is currently borne by the treating ophthalmologists. This despite the fact that the decision to use an off-label drug may be forced upon them by funding/funders.
10. The appropriate management of this condition is critical and the academic advisory committee of the SAVRS would like to invite stakeholders to utilize the committee to guide best practice in the interests of appropriate and evidence-based treatment options.

Appendix 1: recommended treatment algorithm for retinal vein occlusion:

1. Patients should be referred to a suitably trained ophthalmologist for treatment.
2. This algorithm will discuss CRVO and BRVO separately.
3. For CRVO: identify if any underlying systemic disease exists (hypertension, cardiovascular disease, diabetes mellitus, hyperlipidaemia, thrombophilia)
4. Assess the level of ischaemia (afferent pupillary defect, cotton wool spots, fluorescein angiography.) The fluorescein angiogram is performed either in a hospital or at the doctor's rooms depending on the doctor's discretion. Repeat angiography may be required to assess the response to treatment or to assess for increasing ischaemia or further unexplained visual loss.
5. Identify sight threatening complications (neovascularisation of the angle, iris, or disc; glaucoma; macular oedema)
6. Monitor the visual acuity and perform a retinal examination by biomicroscopy. Optical coherence tomography (OCT) is a critical investigation for the diagnosis and follow-up of therapy. The OCT would be indicated at the diagnosis and initiation of therapy and to monitor the response to the loading dose regime and thereafter to assess for recurrence of oedema.
7. For non-ischaemic CRVO where the visual acuity is better than 20/40. The recommendation is to monitor the patient monthly for a year. The aim is to look for conversion to ischaemic central retinal vein occlusion. This will be performed using visual acuity, biomicroscopy, OCT and fluorescein angiography where indicated.
8. For non-ischaemic central retinal vein occlusion when the visual acuity is worse than 20/40, assess for evidence of macular oedema. Where there is macular oedema present, consider either intravitreal steroids or anti-VEGF agents.
9. For ischaemic central retinal vein occlusion where the macula is perfused, assess for evidence of macular oedema and if this is present then consider intravitreal steroids or anti-the VEGF agents.
10. For ischaemic central retinal vein occlusion where there is macular ischaemia present, assess for evidence of macular oedema and if it is present then consider intravitreal steroids or anti-VEGF agents. Even though there is limited evidence from trials, laser treatment for areas of peripheral ischaemia is suggested by the consensus panel in the article listed below.
11. For ischaemic central retinal vein occlusion where there is neovascularisation present intravitreal steroids or anti-VEGF agents may be considered followed by scattered laser photocoagulation
12. For Branch vein occlusion: It is also important to identify contributing factors such as hypertension, cardiovascular disease and diabetes mellitus. The treating ophthalmologist should identify the location of the occlusion. It is necessary to assess the extent of peripheral and macular ischaemia. This is carried out by means of fluorescein angiography. The eye must be assessed for sight threatening complications such as macular oedema, neovascularisation of the disc, retina, iris or angle. The patient would need to be followed with corrected visual acuity, fundus biomicroscopy and OCT.

13. For BRVO where the periphery is perfused and the visual acuity is normal, then monthly monitoring for a year is required. It is necessary to monitor for the development of macular oedema by means of the visual acuity, fundus biomicroscopy and OCT. Fluorescein angiography will be performed where indicated.
14. For BRVO where the periphery is perfused and a symptomatic decrease in visual acuity is detected, then assess for evidence of macular oedema. If macular oedema is present, then consider intravitreal steroids or anti-VEGF agents. Laser remains an alternative if there is an inadequate response to intravitreal therapy or persistent oedema, despite several injections of anti-VEGF agents or intravitreal steroids.
15. For BRVO where the periphery is not perfused and the macula is perfused, if macular oedema is present consider intravitreal steroids or anti-VEGF agents. Consider laser treatment for peripheral ischaemia.
16. For BRVO where the periphery is not perfused and there is macular ischaemia present and there is evidence of macular oedema, then intravitreal steroids or anti-VEGF agents would be considered and laser treatment to areas of peripheral ischaemia is suggested by international experts and endorsed by our committee even though there is limited evidence from current trials.
17. For BRVO where the periphery is not perfused and there is neovascularisation present, scatter laser treatment to the area of ischaemia is recommended and can be combined with intravitreal steroids or anti-VEGF agents.

Reference:

Ophthalmologica 2011;226:4-28 Coscas G et al

Curr Opin Ophthalmol 2012;23:175-181 Hahn P and Fekrat S