NEL/NCL BRVO Pathway

Moorfields Eye Hospital NHS
NHS Foundation Trust

Branch Retinal Vein Occlusion (BRVO)[1,2,3]

Grid Laser Photocoagulation

Treatment Failure or Unsuitable[4]

(Box A) Anti-VEGF[5]

Aflibercept (Eylea®) **(NICE TA 409)**

Ranibizumab (Lucentis®) **(NICE TA 283)**

Treatment is initiated with one injection per month until maximum visual acuity (VA) is achieved[7] and/or there are no signs of disease activity (i.e. no change in visual acuity and in other signs and symptoms of the disease under continued treatment). Thereafter monitoring and treatment intervals (not less than 4 weekly) should be determined by the treating clinician and should be based on disease activity, as assessed by VA and/or anatomical parameters. If there is no change in disease activity, maintenance therapy could be according to a treat-and-extend regimen or a PRN treatment regimen.

If no improvement in visual acuity (by at least 5 letters and CMT has not reduced from baseline) over the course of the first three injections is observed, cessation of treatment may be considered and is recommended after six injections according to patient and clinician preference. However, reduction in retinal oedema without VA improvement or deterioration (i.e. stable VA) may be accepted as a favourable, but suboptimal outcome.

Can switch to another anti-VEGF agent for 3 monthly injections to assess the efficacy of the switch

If vision continues to deteriorate, consider switch to steroid if not contraindicated (Box B)

If a treat-and-extend regimen is utilised, once a patient has reached 12 week intervals between injections, treatment should be suspended and patient is monitored[8] (monitoring interval is dependent on treating clinician)

Treatment should be resumed or treatment interval should be reduced if visual acuity starts to decrease in maintenance therapy e.g. more than 5 ETDRS letters. Treatment and monitoring interval is dependent on treating clinician.

If vision continues to deteriorate, consider switch to steroid if not contraindicated (Box B)

(Box B) Steroid[6]

Dexamethasone Implant (Ozurdex®) **(NICE TA 229)**

One implant should be administered intravitreally to the affected eye and monitoring interval is determined by treating clinician. Re-treatment may be required at 4-6 monthly intervals until visual stability is obtained. However, more frequent and repeated treatments with dexamethasone increase the risk of adverse events and these should be discussed with the patient. Patient should be monitored for raised intraocular pressure (IOP) and formation or progression of cataract.

If OCT indicates absence of macular oedema or stable VA

Dexamethasone treatment should be suspended and patient should be monitored. If at any time there is presence of macular oedema or VA is decreasing, treatment and monitoring intervals are resumed at clinician's decision.

At 60 days if OCT indicates presence of macular oedema or VA does not improve treatment should be discontinued.

Consider switch to anti-VEGF if not contraindicated (Box A)

[1]Medical history, blood pressure (BP) measurement, serum glucose, full blood count (FBC) and erythrocyte sedimentation rate (ESR) will detect associations with retinal vein occlusions that require urgent action such as severe hypertension, uncontrolled diabetes or rarely blood conditions such as leukemia. [2]RCOphth RVO guideline recommends that the management of hemispheric vein occlusion (HRVO) should be similar to BRVO. [3]NICE recommends Eylea first line for BRVO: VIBRANT has shown aflibercept is more clinically effective than laser photocoagulation for untreated visual impairment (caused by macular oedema after branch retinal vein occlusion) and supports clinical experience by demonstrating that aflibercept is more clinically effective when given before, rather than after, laser photocoagulation.[4]NICE recommends drug treatment when grid laser photocoagulation has not worked or is not suitable because of the amount of bleeding in the eye. [5]Anti-VEGF is preferred in eyes with a previous history of glaucoma and younger patients who are phakic. There is no standard definition for 'young patient', but in theory it is not preferable for cataract formation in patients with none pre-existing or in working patient. [6]Steroid may be a better choice in patient with recent cardiovascular events, in patient who does not favour monthly injections or in patient with vitrectomized eye. [7]Maximum visual acuity is defined as stable visual acuity for three consecutive monthly assessments while on anti-VEGF therapy. (RCOphth RVO Guidelines) [8]There are no standard guidelines about treat and extend regimen. Treatment can be extended by 2-4 week intervals, according to clinical judgement and treating clinician's discretion. In studies like VIBRANT and BRAVO suggest monthly injection until no sign of disease activity (i.e. no change in VA and in other signs and symptoms of disease under continued treatment) and then bimonthly.

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