NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Single Technology Appraisal (STA)

Aflibercept solution for injection for the treatment of macular oedema caused by central retinal vein occlusion

Thank you for agreeing to give us a statement on your organisation's view of the technology and the way it should be used in the NHS.

Healthcare professionals can provide a unique perspective on the technology within the context of current clinical practice which is not typically available from the published literature.

To help you in making your statement, we have provided a template. The questions are there as prompts to guide you. It is not essential that you answer all of them.

Please do not exceed the 8-page limit.

About you

Your name: Sobha Sivaprasad

Name of your organisation: Moorfields Eye Hospital

Are you (tick all that apply):

- a specialist in the treatment of people with the condition for which NICE is considering this technology? yes
- a specialist in the clinical evidence base that is to support the technology (e.g. involved in clinical trials for the technology)? Yes, member of writing committee for RVO for RCOphth guidelines
- an employee of a healthcare professional organisation that represents clinicians treating the condition for which NICE is considering the technology? If so, what is your position in the organisation where appropriate (e.g. policy officer, trustee, member etc.)? No
- other? (please specify) No

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What is the expected place of the technology in current practice?

How is the condition currently treated in the NHS? Is there significant geographical variation in current practice? Are there differences of opinion between professionals as to what current practice should be? What are the current alternatives (if any) to the technology, and what are their respective advantages and disadvantages?

Are there any subgroups of patients with the condition who have a different prognosis from the typical patient? Are there differences in the capacity of different subgroups to benefit from or to be put at risk by the technology?

In what setting should/could the technology be used – for example, primary or secondary care, specialist clinics? Would there be any requirements for additional professional input (for example, community care, specialist nursing, other healthcare professionals)?

If the technology is already available, is there variation in how it is being used in the NHS? Is it always used within its licensed indications? If not, under what circumstances does this occur?

Please tell us about any relevant **clinical guidelines** and comment on the appropriateness of the methodology used in developing the guideline and the specific evidence that underpinned the various recommendations.

Central Retinal Vein Occlusion (CRVO) is managed differently depending upon whether the occlusion of the central retinal venous system is at risk of development of neovascularisation, rubeotic glaucoma and/or macular oedema.

Macular oedema caused by a branch CRVO is currently treated with intravitreal dexamethasone 700ug injections. Dexamethasone intravitreal implant received marketing approval and is recommended for some BRVO patients and for CRVO.

Ranibizumab has also received marketing authorisation and is NICE recommended for this indication.

Laser is generally unsuitable for patients with macular oedema due to a CRVO and is not recommended due to the CVOS study which looked at laser in CRVO patients with macular oedema and found no clinical benefit.

The Retinal Vein Occlusion Guidelines produced by the Royal College of Ophthalmologists in 2010 were unable to recommend bevacizumab for CRVO or BRVO. The evidence in CRVO is limited to case series (without controls). Further data from randomised controlled trials is required to assess long-term safety and efficacy and to establish efficacy and appropriate dosing regimen. The SmPC for bevacizumab was recently altered to include cases of severe intraocular inflammation following intravitreal administration of the drug. Any use of this unlicensed product must therefore be considered in light of GMC guidelines on 'Good Medical Practice' and the manufacturer's advice.

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Triamcinolone is very rarely used in CRVO now and is also contraindicated for intraocular use by its manufacturer.

Are there any subgroups of patients with the condition who have a different prognosis from the typical patient? Are there differences in the capacity of different subgroups to benefit from or to be put at risk by the technology?

The duration of symptoms will generally predict the level of benefit achieved. Patients with a longer duration of macular oedema may respond less well to treatment, as the longer the duration of oedema the more the fovea is damaged. There is a particular need for an effective treatment for ischaemic patients.

In what setting should/could the technology be used – for example, primary or secondary care, specialist clinics? Would there be any requirements for additional professional input (for example, community care, specialist nursing, other healthcare professionals)?

Aflibercept should be used in the existing retinal clinics, under the supervision of an ophthalmologist experienced in medical retinal disorders.

If the technology is already available, is there variation in how it is being used in the NHS? Is it always used within its licensed indications? If not, under what circumstances does this occur?

The drug is now available in the NHS for wet age related macular degeneration and it involves 3 loading monthly doses followed by 8 weekly fixed in the first year followed by a reactive +proactive dosing in the second year.

Please tell us about any relevant **clinical guidelines** and comment on the appropriateness of the methodology used in developing the guideline and the specific evidence that underpinned the various recommendations.

As noted the Guidelines for the Management of Retinal Vein Occlusion produced by the Royal College of Ophthalmologists (RCOphth) have been available since 2010. I am a member of the 2010 guidelines development group. The guidelines development group of ophthalmologists supported a team at NHS Evidence to search the published literature systematically. Relevant literature was graded according to strength of evidence. All UK consultant ophthalmologists were consulted on a draft of the guideline, as well as 2 non-UK experts and comments incorporated accordingly. I therefore consider that the methodology used is robust.

The posology for aflibercept in CRVO remains unknown.

Frequency of follow up in the first 12 months will be dependent upon VA, OCT and FFA findings and guided by the SmPC.

The advantages and disadvantages of the technology

NICE is particularly interested in your views on how the technology, when it becomes available, will compare with current alternatives used in the UK. Will the technology be easier or more difficult to use, and are there any practical implications (for

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example, concomitant treatments, other additional clinical requirements, patient acceptability/ease of use or the need for additional tests) surrounding its future use?

If appropriate, please give your view on the nature of any rules, informal or formal, for starting and stopping the use of the technology; this might include any requirements for additional testing to identify appropriate subgroups for treatment or to assess response and the potential for discontinuation.

If you are familiar with the evidence base for the technology, please comment on whether the use of the technology under clinical trial conditions reflects that observed in clinical practice. Do the circumstances in which the trials were conducted reflect current UK practice, and if not, how could the results be extrapolated to a UK setting? What, in your view, are the most important outcomes, and were they measured in the trials? If surrogate measures of outcome were used, do they adequately predict long-term outcomes?

What is the relative significance of any side effects or adverse reactions? In what ways do these affect the management of the condition and the patient's quality of life? Are there any adverse effects that were not apparent in clinical trials but have come to light subsequently during routine clinical practice?

Aflibercept or VEGF Trap-Eye (Eylea, Bayer & Regeneron) is a fusion protein of the key domains of VEGF receptors 1 and 2 and human IgGFc that blocks all VEGF-A isoforms and placental growth factor. It is FDA approved for CRVO based on the GALILEO and COPERNICUS studies that showed a mean gain of +16.2 letters BVCA at 12 months with 60% gaining ≥ 15 letters at 12 months. Cataract occurred in < 2% and glaucoma in < 0.58% of patients at 12 months. When given at 8 weekly intervals after a loading phase it has been demonstrated to be non-inferior to ranibizumab in wet age related macular degeneration. This longer-acting property, thus likely reduced frequency of repeat treatment and potential for improved cost effectiveness has not been explored in a pragmatic trial comparing it to other anti-VEGF blockers, ie ranibizumab and bevacizumab.

Aflibercept has an advantage over ranibizumab for its potential of 8 weekly dosing as seen in age related macular degeneration. However, a treat and extend approach may be more appropriate due to our inexperience with the drug.

Aflibercept has an advantage over dexamethasone in that there is a decreased risk of increased intraocular pressure and cataracts. Retreatment with dexamethasone is less frequent than aflibercept. However, the maximum efficiacy of dexamthasone is also about 60 days and wearing off rapidly thereafter, meaning re-treatment may be required as early as 4 months after initial injection. The injection is also more complex.

The drug is only very recently introduced into the NHS for wet age related macular degeneration with some very good response in these patients.

What is the relative significance of any side effects or adverse reactions? In what ways do these affect the management of the condition and the patient's quality of life? Are there any adverse effects that were not apparent in clinical trials but have come to light subsequently during routine clinical practice?

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There is a risk of endophthalmitis from intravitreal injection. Endophthalmitis in clinical practice is very infrequent and most adverse effects can be managed in the retinal clinic.

The cumulative effect of repeated steroid use over time is a concern, as long term evidence is not available. The risk of increased intraocular pressure (IOP) will require additional monitoring to initiate IOP lowering treatment and to assess the response to these treatments, especially given the expected higher rate of retreatment with dexamethasone than used in the GENEVA studies. Raised IOP is not a concern with ranibizumab or aflibercept injections, and there is more long term experience with ranibizumab through its use in wet AMD since 2008.

An additional benefit that should be considered is the potential that ranibizumab and aflibercept may prevent neovascular complications such as iris and retinal neovascularisation which can require significant degree of intervention to prevent visual deterioration and severe intractable glaucoma.

Equality and Diversity

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. Please let us know if you think that this appraisal:

- Could exclude from full consideration any people protected by the equality legislation who fall within the patient population for which [the treatment(s)] is/are/will be licensed;
- Could lead to recommendations that have a different impact on people protected by the equality legislation than on the wider population, e.g. by making it more difficult in practice for a specific group to access the technology;
- Could lead to recommendations that have any adverse impact on people with a particular disability or disabilities

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Please tell us what evidence should be obtained to enable the Committee to identify and consider such impacts

Any additional sources of evidence

Can you provide information about any relevant evidence that might not be found by a technology-focused systematic review of the available trial evidence? This could be information on recent and informal unpublished evidence, or information from registries and other nationally coordinated clinical audits. Any such information must include sufficient detail to allow a judgement to be made as to the quality of the evidence and to allow potential sources of bias to be determined.

NHS Evidence conducted a review of annual evidence update of cardiovascular morbidity and mortality associated with RVO. Current evidence suggests no increased cardiovascular risk in this patient population, although this has been debated given that some studies in non-UK populations suggest there may be an increased risk.

Implementation issues

The NHS is required by the Department of Health and the Welsh Assembly Government to provide funding and resources for medicines and treatments that have been recommended by NICE technology appraisal guidance. This provision has to be made within 3 months from the date of publication of the guidance.

If the technology is unlikely to be available in sufficient quantity, or the staff and facilities to fulfil the general nature of the guidance cannot be put in place within 3 months, NICE may advise the Department of Health and the Welsh Assembly Government to vary this direction.

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Please note that NICE cannot suggest such a variation on the basis of budgetary constraints alone.

How would possible NICE guidance on this technology affect the delivery of care for patients with this condition? Would NHS staff need extra education and training? Would any additional resources be required (for example, facilities or equipment)?

RVO patients would continue to be seen and treated in the retinal clinic. These numbers are manageable within the existing clinics. Our staff is fully trained to deliver a ranibizumab and Ozurdex service to RVO patients. It will be important to have immediate provision to initiate aflibercept for RVO patients, to ensure that early treatment and optimal outcomes can be achieved. A variation to the 3 month mandatory implementation of guidance on this technology will be unwelcome.