

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Health Technology Appraisal

Aflibercept solution for injection for the treatment of wet age-related macular degeneration

Draft scope (Pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of aflibercept solution for injection, within its licensed indication, for the first-line treatment of wet age-related macular degeneration.

Background

The macula is the central part of the retina responsible for colour vision and perception of fine detail. Age-related macular degeneration refers to the deterioration in the cells of the retinal pigment layer at the macula area, which can lead to severe visual impairment in the affected eye.

Age-related macular degeneration is a common cause of vision loss in people aged over 50 years and is associated with the loss of central vision and visual distortion. There are two main types of age-related macular degeneration, wet (neovascular) and dry (non-neovascular). Wet age-related macular degeneration is characterised by the formation of immature blood vessels that grow between the retinal pigment epithelial cells and the photoreceptor cells in the centre of the retina. These new blood vessels are fragile and more likely to haemorrhage, which causes scarring of the macula leading to vision impairment. Choroidal neovascularisation can be subdivided into classic and occult forms according to its appearance on investigation by fluorescein angiography. Choroidal neovascularisation can also be described in terms of its location in relation to the fovea. Wet age-related macular degeneration usually progresses much more quickly than dry age-related macular degeneration which is associated with a slow deterioration of retinal pigment cells and photoreceptor cells in which vision declines over several years.

Approximately 10-15 per cent of people who develop age-related macular degeneration have wet age-related macular degeneration. There are an estimated 26,000 new cases of wet age-related macular degeneration in the UK each year. Risk factors for the development of age-related macular degeneration include age, sex (it is more common in women) and cigarette smoking (smokers having a 3.6 times greater risk of developing age-related macular degeneration compared with people who have never smoked).

The aim of current management of age-related macular degeneration is to improve or halt the decline in visual acuity associated with age-related macular degeneration. NICE technology Appraisal No. 68 recommends the use of photodynamic therapy (laser activation of verteporfin which causes cell death in new blood vessels) in individuals with a confirmed diagnosis of classic with no occult subfoveal choroidal neovascularisation and a best-

corrected visual acuity 6/60 or better. NICE Technology Appraisal No. 155 recommends the use of intravitreal ranibizumab for the treatment of wet age-related macular degeneration in certain people. The Royal College of ophthalmologists has issued guidance on the management of wet age-related macular degeneration including the use of intravitreal ranibizumab and bevacizumab. Current patient management also involves social support, visual rehabilitation and the provision of aids to help with low vision.

The technology

Aflibercept solution for injection (Eylea, Bayer Schering and Regeneron) is a soluble VEGF receptor fusion protein which binds to all forms of VEGF- and placental growth factor (PIGF). VEGF-Trap prevents these factors from stimulating the growth of fragility and permeable new blood vessels associated with wet age-related macular degeneration. It is administered by intravitreal injection.

Aflibercept solution for injection does not have a UK marketing authorisation for the treatment of age-related macular degeneration. It is currently being evaluated in several clinical trials in comparison with ranibizumab in patients with subfoveal choroidal neovascularisation lesions secondary to age-related macular degeneration.

Intervention	Aflibercept solution for injection
Population	People with active subfoveal choroidal neovascularisation lesions secondary to age-related macular degeneration
Standard comparators	<ul style="list-style-type: none"> • Ranibizumab • Bevacizumab • Best supportive care
Outcomes	<p>Outcomes should include:</p> <ul style="list-style-type: none"> • Visual acuity (the affected eye) • Visual acuity (the whole person) • Contrast sensitivity • Adverse effects of treatment • Health-related quality of life.

<p>Economic analysis</p>	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The economic evaluation should be based on an appropriate time horizon over which the main costs and benefits of treatment are likely to differ from the standard comparator.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p>
<p>Other considerations</p>	<p>If evidence allows, potential subgroups could be defined according to the location of the lesion, and the composition of the lesion in terms of classic and occult choroidal neovascularisation.</p> <p>Guidance will only be issued in accordance with the marketing authorisation.</p>

<p>Related NICE recommendations</p>	<p>Related Technology Appraisals:</p> <p>Technology Appraisal TA155. August 2008. Ranibizumab and pegaptanib for the treatment of age-related macular degeneration. Review date: August 2011.</p> <p>Technology Appraisal TA68. September 2003. The clinical effectiveness and cost effectiveness of photodynamic therapy for age-related macular degeneration. Review date: August 2011</p> <p>Related Interventional Procedures:</p> <p>Interventional Procedure Guidance No. 48. March 2004. Macular translocation for age-related macular degeneration (March 2004)</p> <p>Interventional Procedure Guidance No. 49. March 2004. Radiotherapy for age-related macular degeneration</p> <p>Interventional Procedure Guidance No. 58. June 2004 Transpupillary thermotherapy for age-related macular degeneration</p> <p>Interventional Procedure Guidance No. 340. May 2010. Macular translocation with 360° retinotomy for wet age related macular degeneration.</p> <p>Interventional Procedure Guidance No. 339. May 2010. Limited macular translocation for wet age-related macular degeneration.</p> <p>Interventional Procedure Guidance No. 272. August 2008. Implantation of miniature lens systems for advanced age-related macular degeneration.</p>
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Questions for consultation

Have the most appropriate comparators for aflibercept solution for injection for the treatment wet age-related macular degeneration been included in the scope? Are the comparators listed routinely used in clinical practice?

Is bevacizumab used for the first line treatment of age-related macular degeneration or only as second-line treatment for patients for whom treatment with ranibizumab has failed?

Should subgroups defined by the location of the lesion and composition of the lesion (classic and occult choroidal neovascularisation) be considered?

Please consider whether in the remit or the scope there are any issues relevant to equality. Please pay particular attention to whether changes need to be made to the remit or scope in order to promote equality, eliminate unlawful discrimination, or foster good relations between people who share a characteristic protected by the equalities legislation and those who do not share it, or if there is information that could be collected during the assessment process which would enable NICE to take account of equalities issues when developing guidance.

Do you consider the technology to be innovative in its potential to make a significant and substantial impact on health-related benefits and how it might improve the way that current need is met (is this a 'step-change' in the management of the condition)?

Do you consider that the use of the technology can result in any potential significant and substantial health-related benefits that are unlikely to be included in the QALY calculation?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits

NICE intends to appraise this technology through its Single Technology Appraisal (STA) Process. We welcome comments on the appropriateness of appraising this topic through this process. (Information on the Institute's Technology Appraisal processes is available at http://www.nice.org.uk/aboutnice/howwework/devnicetech/technologyappraisalprocessguides/technology_appraisal_process_guides.jsp)