Aflibercept – Setting its Sights on Diabetic Macular Oedema

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Abstract: A satellite symposium entitled 'Aflibercept* – Setting Its Sights On Diabetic Macular Oedema (DMO)' was chaired by Jean-François Korobelnik and was convened at the 2014 European Association for Vision and Eye Research (EVER) Congress. The symposium discussed the science behind DMO, in particular, the role of vascular endothelial growth factor (VEGF) and associated inflammatory mechanisms that alter fluid transport from capillaries into retinal tissues leading to focal leakage, fluid accumulation, macular damage and eventual blindness. This discussion of the pathophysiology emphasised the importance of VEGF as a target for DMO treatments. Management of diabetes and prevention of progression of diabetic retinopathy leading to DMO requires strict control of glycated haemoglobin (HbA1c), blood pressure and lipid levels. Once DMO has developed and vision is impaired, the anti-VEGF agents have emerged as vital components of disease management and are becoming the first-line standard of care. Aflibercept (EYLEA®) and ranibizumab (Lucentis®) are approved agents for DMO and have shown significant efficacy in clinical trials in terms of visual acuity gains, decreased retinal thickness and have good safety profiles. The symposium finally focused on the use of aflibercept in DMO. In large-scale trials (VIVID and VISTA), this treatment has been compared head-to-head with laser treatment and during 1 year of treatment, showed substantial efficacy benefits, no new safety signals and the potential for lower frequency intravitreal dosing at 8- rather than 4-week intervals for monitoring and pro re nata dosing.

Keywords: Diabetic macular oedema, VEGF, anti-VEGF agents, aflibercept
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Diabetic macular oedema (DMO) is an increasingly common visionthreatening disease that results from retinal vascular dysfunction and low-grade inflammation, developing into diabetic retinopathy (DR) and then to DMO over 10 or more years following the onset of diabetes.[1] Areas of retinal tissue lose capillary vasculature and become ischaemic, stimulating secretion of vascular endothelial growth factor (VEGF) and other cytokines.[2–4] Changes in paracellular and transcellular transport across the capillary endothelium and altered hydrostatic and osmotic pressure gradients result in fluid movement into retinal tissues, leading to consequent oedema and retinal damage.

Effective prevention and management of DR and DMO require intensive treatment of diabetes in terms of controlling glycaemia, blood pressure and lipid levels.[5] Hyperglycaemia drives vascular dysfunction and DR, and it is important that patients understand the critical importance of controlling blood glucose levels. Treatment of DMO during the past decades has been almost entirely limited to laser photocoagulation but, recently, anti-VEGF agents have emerged as first-line agents in a subset of patients.[6] Among these, two medications have been approved for this indication: aflibercept (EYLEA®) and ranibizumab, (Lucentis®) and in large clinical trials, these have shown greater efficacy in central DMO than laser treatment or placebo, respectively.[7–9]

This article reports the proceedings of a symposium that reviewed the pathophysiology of DMO and the possible approaches to its management, particularly laser, anti-VEGF agents and corticosteroids. It also discussed the results of two large ongoing phase III clinical trials that are evaluating treatment of a large population of DMO patients with the anti-VEGF agent, aflibercept. These novel trials involve two regimens of aflibercept, in a head-to-head comparison with laser therapy. They are providing much-needed data on the comparative efficacy of these treatments in DMO in terms of visual acuity (VA) and retinal pathology and are also providing useful data on their relative safety and tolerability.

1 2 (/articles/aflibercept-setting-its-sights-diabetic-macular-oedema/page/1/0)
3 (/articles/aflibercept-setting-its-sights-diabetic-macular-oedema/page/2/0)
4 (/articles/aflibercept-setting-its-sights-diabetic-macular-oedema/page/3/0)
next (/articles/aflibercept-setting-its-sights-diabetic-macular-oedema/page/1/0)
last (/articles/aflibercept-setting-its-sights-diabetic-macular-oedema/page/3/0)

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Please see end of references for the full Eylea® 40 mg/ml solution for injection in a vial (aflibercept) Prescribing Information

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