DME – is anti-vascular endothelial growth factor (VEGF) the answer?

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Statement of the Problem: Diabetic macular edema (DME) remains the most common cause of visual loss among diabetic patients. The pathogenesis of DME is complex and multifactorial. It occurs mainly as a result of disruption of the blood-retinal barrier (BRB), which leads to increased accumulation of fluid within the intra-retinal layers of the macula. Hyperglycemia is a major risk factor for development of diabetic retinopathy. Other factors such as hypoxia, altered blood flow, retinal ischemia, and inflammation are also associated with the progression of DME. DME patients are of working age and require long-term management. These patients often present with co-morbidities. Visual disability from DME is largely preventable if managed timely. However, there are multiple approaches to treat DME. This research is a systematic review of the role of anti-VEGF in treatment of DME. It covers the various aspects in individualizing the treatment protocol in DME by comparing fixed with flexible treatment approaches.

Methodology & Theoretical Orientation: A formal search of EMBASE, Cochrane and MEDLINE were performed for consistent and well-documented long-term efficacy and safety profile of anti-VEGF in DME. Different treatment regimens were investigated in the treatment of DME. Studies were reviewed independently for methodology, inclusion and exclusion criteria and endpoints.

Findings: Anti-VEGFs have consistently shown good clinical effectiveness. Benefit/risk ratio of treatment is a key consideration in patients with DME.

Conclusion & Significance: Anti-VEGF has a consistent and well-documented long-term efficacy and safety profile for the treatment of visual impairment due to DME. As DME patients are of working age, there is a need to reduce treatment burden while maintaining VA outcomes in this patient population. A T&E regimen may provide a significant reduction in visit burden over a long period of treatment for DME patients and for clinics.

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