

MODULE 9.11

Assessment of Treatment Value

Careful monitoring of the patient with diabetic retinopathy (DR) or diabetic macular edema (DME) is essential to prevent or slow the progression of functional vision loss. Follow-up examinations should include both an updated patient history and examination.¹ Any changes in patient symptoms, systemic health status (eg, blood pressure), and glycemic status (eg, hemoglobin A1c) should be noted because they may affect subsequent treatment strategies. According to the American Academy of Ophthalmology,¹ a follow-up examination should include:

- Visual acuity (VA) assessment²
- Slit-lamp biomicroscopy (including iris exam)³
- Intraocular pressure (IOP) assessment
- Gonioscopy (in the case of neovascularization [either present or suspected] or increases in IOP)³
- Stereoscopic examination of the posterior pole (following pupil dilation)⁴
- Peripheral retina and vitreous examination, as needed⁵

The diagnosis and treatment of DR and DME are complex, and ophthalmologists should be familiar with recommendations from studies such as the Diabetic Retinopathy Study,⁶ Early Treatment Diabetic Retinopathy Study (ETDRS),^{2,4} and the Diabetic Retinopathy Vitrectomy Study.⁷⁻¹⁰ However, this information was published before the advent of the anti-vascular endothelial growth factor (anti-VEGF) agents and intravitreal steroid inserts.

Therefore, it is essential that the clinician stay up-to-date on the latest clinical findings for anti-VEGF agents, corticosteroids, laser photocoagulation, and vitrectomy (discussed in other modules) to effectively manage their patients with DR and DME. The clinician must weigh a number of factors when deciding between the available treatments for DR and DME such as:

- Efficacy
- Safety (vision gains versus the risk of adverse events)
- Financial costs
- Likelihood of patient adherence
- Number of injections/patient visits required (eg, treatment burden on patients and their caregivers)
- Overall patient preferences

A cross-sectional survey of 161 patients examined patient preferences on 11 different attributes of DR treatments (anti-VEGF agents, focal laser, panretinal laser, and steroid

therapy),¹¹ including the chance of improving vision or the risk of adverse events (AEs) over a 1-year course of treatment. Attributes associated with visual functioning, including improving VA and reducing AEs (eg, chance of cataracts), were perceived as having higher importance than those not directly related to vision (eg, mode of administration, treatment-related pain, number of physician visits). Overall, 52%, 20%, 17%, and 11% of the patients surveyed demonstrated preferences for profiles matching to the anti-VEGF, steroid, focal laser, and panretinal laser therapies, respectively. In most instances, these preferences did not vary substantially by age, previous treatment experience, or type of DR (macular edema, proliferative DR, both, or neither). One exception was that more patients with DME only preferred focal laser over steroid treatment (19% versus 14%, respectively). Patient preferences should be taken into consideration when designing a treatment strategy.

One challenge facing today's healthcare system is the lack of referrals and education for patients with diabetes from their primary care physicians. Most patients with diabetes have at least 1 comorbid chronic disease (eg, coronary heart disease), and 40% have 3 or more.¹² The guidelines for DME address only a single, isolated aspects of diabetes comorbidity. Unfortunately, having an eye injection for DME may not be on the physician's priority list.

In 2010, a study published in *JAMA Ophthalmology* was conducted using a cross-sectional analysis of data from participants in the 2005-2008 National Health and Nutrition Examination Survey of the United States.¹³ This study found that only 44.7% of US adults 40 years or older with DME reported being told by their physician that diabetes had affected their eyes or that they had retinopathy. Only 59.7% of these patients said that they had received an eye examination with pupil dilation in the last year. Among individuals with DME, about 28.7% were visually impaired (<20/40 in the eye with DME) based on VA at the initial examination. It is apparent that many individuals with diabetes mellitus are not getting the care they need that can prevent visual impairment and blindness. Strategies to increase awareness, both for patients and primary care physicians, are warranted.

References

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