

Age-Related Macular Degeneration: Therapeutic Strategies and Future Approaches

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Abstract

Age-related macular degeneration (AMD) is a chronic and progressive retinal degenerative disease of the macula that affects the elderly and causes impairment of central vision. AMD is a multifactorial disease that encompasses a complex interplay between aging, environmental risk factors, and genetic susceptibility. Chronic inflammation, lipid deposition, oxidative stress, and impaired extracellular matrix maintenance are strongly implicated in the pathogenesis of AMD. Advanced AMD can be classified into two types: dry and wet. Although dry AMD accounts for the majority of diagnosed cases, wet AMD is responsible for the majority of severe vision loss and usually occurs within weeks or months. Although neovascularization was the most common cause of severe vision loss, geographic atrophy, the most advanced form of dry AMD, can also cause significant vision loss. The medical treatment of neovascular AMD has seen significant progress due to the introduction of vascular endothelial growth factor (anti-VEGF) inhibitors, which have dramatically changed the prognosis of the disease. Research does not prove the need to change treatment methods in every patient, there may be occasions when patients with AMD show a more robust response to one anti-VEGF agent than another. Clinicians may consider alternatives to switching, such as increasing injection frequency, when managing a patient who appears to be unresponsive to therapy. In this regard, it may be helpful to have a patient return for evaluation 1 to 2 weeks after injection with repeat testing to assess whether there has been a reduction in subretinal fluid or retinal edema shortly after anti-VEGF injection.

Keywords: Age-related Macular Degeneration (AMD); Neovascular AMD; Neovascularization; Vascular endothelial growth factor (VEGF); Anti-VEGF

