



Review

Age-related macular degeneration (AMD): pathogenesis and therapy

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Abstract:

Age-related macular degeneration (AMD) is a disease leading to severe visual loss and legal blindness in the elderly population. Its pathogenesis, likely multifactorial, involving a complex interaction of metabolic, functional, genetic and environmental factors, remains poorly understood. For these reasons currently used therapeutic approaches are insufficiently effective. Although major abnormalities are seen in four functionally interrelated tissues, i.e., photoreceptors, retinal pigment epithelium (RPE), Bruch's membrane and choriocapillaries, the impairment of RPE cell functions is an early and crucial event in the molecular pathways leading to clinically relevant AMD changes. RPE progressively degenerate, which results in a progressive irreversible degeneration of photoreceptors. Four processes: lipofuscinogenesis, drusogenesis, inflammation and neovascularization, specifically contribute to the development of two forms of AMD, the dry form (non-exudative; geographic atrophy) and the wet form (exudative, neovascular). This paper briefly describes major molecular and cellular events leading to AMD, and presents currently used and new experimental, forthcoming therapeutic strategies.

Key words:

age-related macular degeneration, AMD, pathogenesis, lipofuscin, drusen, inflammation, therapeutic strategies
