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Abstract: Age-related macular degeneration (AMD) is a disease of the retina located in the central region of the macula, hence affecting central vision. As its name implies, it is a disease of aging, occurring usually after the age of 50 years. The two forms are dry and wet AMD.

Keywords: Age-related macular degeneration (AMD), retina, wet macular degeneration, retinal detachment.

INTRODUCTION

In dry macular degeneration, the most common form, the central vision is affected so that objects become very blurred. This is caused by cellular debris (drusen) that appears as yellow spots deposited between the choroids and the retina. Recent investigations of injecting embryonic stem cells that were induced to differentiate into retinal pigment epithelial cells between the retina and the sclera demonstrated that the injected cells survived and did not cause any deleterious effects. Instead, these transformed cells were able to ameliorate the vision problems for some of the patients involved. Clinical trials using transformed embryonic stem cell therapy are currently being conducted.

Wet macular degeneration, the most severe form, results when small blood vessels, formed between the choroid and the retina, leak into this space causing the retina to die, and, as a result, a blind spot forms in the center of the visual field. Wet macular degeneration exhibits a quick onset with a small blind spot that may quickly progress to a larger blind spot. Although an AMD patient may be unable to recognize a face in the center of vision, interestingly, the peripheral vision is unaffected by macular degeneration. Although a cure has not been found, certain vitamins and high doses of antioxidants and zinc may be of some benefit for dry AMD, whereas laser surgery and injections of antiangiogenesis drugs are used to manage wet AMD.

Retinal detachment occurs when the neural and pigmented layers separate from each other, for example, as a result of a sudden hard jolt. This condition can sometimes be treated successfully by laser surgery. But, extensive separation requires cryosurgery to produce successful adhesion of the two layers. If retinal detachment is left untreated, blindness may occur, and, often even with treatment, the rods and cones die, leaving blind spots in the visual field.

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