Age-related macular degeneration (AMD) is a leading cause of blindness among the aging population

AMD is a degenerative eye disease that is a leading cause of severe vision loss in people over the age of 50 years in the Western world. AMD currently affects an estimated 25 to 30 million people worldwide.1,2,3

AMD affects the macula – the part of the eye that allows fine detail to be seen and is responsible for the “straight ahead” central vision necessary for identifying faces and undertaking everyday activities like reading, driving and telling the time.

Vision loss is increasing worldwide as the population ages

Blindness and vision impairment are increasing as people are living longer. The World Health Organization estimates that by 2020, approximately 75 million individuals will be blind (<3/60 or <20/400) and approximately 270 million individuals will have low vision (<6/18 – 3/60 or <20/60 – 20/400).4

The “wet” form of AMD accounts for most of the vision loss among AMD patients

There are two types of AMD: dry and wet. Dry AMD is the most common type, accounting for approximately 85% of all AMD cases, while wet AMD, although less common, accounts for the majority of vision loss.5,6 Wet AMD is associated with the abnormal growth of new vessels in the macula. These vessels are fragile and leak fluid and blood, leading to the development of edema (excessive fluid accumulation in tissues). If left untreated, scar tissue may develop that destroys the macula. Typically, a blind spot (scotoma) develops and causes a decrease in central vision.7

Symptoms of wet AMD can include8:
- Distortion of objects and lines (metamorphopsia)
- Blurred and reduced visual acuity
- Decreased color vision
- Increased glare sensitivity (resulting from sensitivity to changing light conditions)
- Scotoma (a blank area in the center of the visual field surrounded by a distorted image)

The figures below illustrate the types of vision impairment that wet AMD sufferers may experience:

WHO estimates by 2020
- 75 million individuals will be blind
- 270 million individuals will have low vision

AMD affects the macula
- Vitreous gel
- Iris
- Cornea
- Pupil
- Lens
- Retina
- Macula

AMD impacts everyday activities like reading
- Macula
- Fovea
- Iris
- Retina

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Risk factors for AMD
The trigger of AMD is not fully understood, but several risk factors are recognized, of which age is the strongest. Other risk factors include: family history, sex (females have a higher risk), race (Caucasians have a higher risk), light-colored irises, high blood pressure, high blood cholesterol, smoking, exposure to sunlight and diet (low intake of anti-oxidants).10,11,12,13,14,15

Angiogenesis – the formation of new blood vessels – is an underlying cause of wet AMD
Wet AMD is characterized by the development of new blood vessels (angiogenesis) underneath the retina. The process of angiogenesis is normally regulated throughout development and adult life, and is stimulated by growth factors such as vascular endothelial growth factor (VEGF). Elevated VEGF levels in the eye are associated with the development of wet AMD and subsequent vision loss.16

Treatment of wet AMD
Historically argon laser was used for the treatment of wet AMD. This was surpassed by Visudyne® (verteporfin) photodynamic therapy, which became the predominant treatment choice with an aim to preserve vision in patients. Since the launch in 2006 in the United States of Lucentis® (ranibizumab) – the first licensed anti-VEGF therapy to provide transformational vision gains – the treatment goal is to improve vision in a significant proportion of patients.17 In most countries Lucentis is administered for the treatment of wet AMD to patients on an individualized basis with the goal of maximizing vision outcomes for each individual patient whilst minimizing the risks of over- or under-treating. In various studies across different countries (including in Denmark, Israel, Scotland and the United States), intravitreally injected inhibitors of VEGF were attributed to cause the bulk of reductions in the incidence of legal blindness from AMD.18 Since the launch of Lucentis there has been an approximately 50% reduction in blindness due to AMD over 6 years.16,18,19,20,21,22,23

Learn more about wet AMD here: http://www.youtube.com/watch?v=PDhJhJMMQ_Q

References