Advice for Age related macular degeneration in primary care

Key learning points

- Age related macular degeneration (AMD) is the leading cause of blindness in the Western world
- Development of AMD is related to increasing age
- AMD comes in 2 forms – dry (atrophic) and wet (neovascular). Smoking is the principal preventable risk factor and is associated with a threefold increase in risk of wet AMD
- Wet AMD is now treatable if caught early, but as yet there is no treatment for atrophic dry AMD

Evidence base

- There is extensive epidemiological research into genetic risk, lifestyle and environment
- Intravitreal drug therapy by anti-vascular endothelial growth factor (VEGF) agents is effective at preventing blindness due to neovascular wet AMD and is supported by randomised clinical treatment trials

Background

- The macula is the area of the retina with the highest density of cone photoreceptors responsible for fine vision discrimination and colour
- Macular blood flow comes from the choroidal circulation found between posterior sclera (the outer coat of the eye) and the retina
- In AMD there is a build-up of small white extracellular deposits (drusen) in the outer retinal layers between the photoreceptors and their blood supply. Drusen are the hallmark lesions of early AMD
• In 10-15% of AMD new blood vessels grow into the retina from the choroidal circulation stimulated by vascular endothelial growth factors released by the retina
• These new blood vessels leak fluid and blood (wet AMD) causing sudden distortion and loss of vision. Without treatment the resultant destruction and scarring causes irreversible vision loss
• Early intervention with repeated intravitreal anti-VEGF injections – currently Ranibizumab (Lucentis) and Aflibercept (Eylea) – into the vitreous stops leakage and progression of neovascularisation. Vision is stabilised in 90% and improved in 30%
• Progression of dry AMD is primarily attributed to chronic inflammation in and around drusen inducing retinal pigment cell death, damage to photoreceptors and slow but inevitable vision loss
• Use of stem cell transplantation is currently under investigation

Epidemiology and risk of blindness

• Studies have identified age and genetic factors as major risk factors for wet AMD
• All studies show that AMD prevalence is higher with advancing age. For example, combined data from racially similar communities across 3 continents showed <1% prevalence at 55-64y rising to 13% over 85y²
• Caucasians appear to be at higher risk of the disease than those with African heritage, though recent studies show similar prevalence between Asians and Caucasians
• Many studies show a slightly (x1.2) increased risk in females
• Other risks have shown less consistent results but cardiovascular morbidity, excessive sun exposure and obesity have been correlated with increased disease in some studies
• Prevalence estimates predict that as the population ages, certification for blindness due to AMD will be needed for 30% of population over 80y³.
• In 2007, AMD accounted for 47% of England and Wales CVI (Certificate of Visual Impairment), before the impact of intravitreal treatments for the wet form of the disease⁴
• Since introduction of the new treatments blindness has reduced. Blindness certification due to AMD dropped by 50% in Denmark over 2001 to 2010, attributed to the introduction of intravitreal anti-VEGF treatment for neovascular (wet) AMD in 2006⁵
Symptoms, signs and GP management

- Sudden onset of blurred vision, or distorted vision in someone over 50 should alert the GP to the possibility of wet AMD. Reading vision is typically affected, with patients describing missing letters or distorted print.
- Unlike other causes of poor vision in the elderly (out-of-date glasses, cataract) vision is not improved through a pinhole.
- Macular haemorrhage may be seen on ophthalmoscopy.
- The patient should be referred urgently to the local Rapid Access clinic for assessment within a week and potential intravitreal treatment if wet AMD is present.

Prevention

- Stop smoking is the number one advice for people with dry AMD.
- Active smoking is associated with a threefold increase in risk of advanced AMD. The risk is also increased for ex-smokers compared with those who have never smoked and there is evidence of increased risk from environmental tobacco smoke. The mechanism is multifactorial. Although nicotine is a potent angiogenic agent, so far there is no AMD data on nicotine patches or e-cigarettes.
- A healthy diet containing dark green leafy vegetables and foods containing yellow pigments is recommended to maintain a healthy retina.
- Recently self monitoring devices have shown success in enabling early detection and treatment to prevent vision loss.

Support and advice

- Living with poor vision often requires both practical aids and attitude change.
- There is a documented risk of depression and negative impact on quality of life with development of AMD. Interventions that actively engage elderly people in future planning and activities to combat loneliness and isolation may be effective. Clinical trials of psychosocial intervention are underway.
- RNIB and local blind societies advise on rehabilitation, lighting and living aids such as talking clocks and newspapers.
- Low vision assessment with magnifying aids including reading bars and telescopes enable the patient to make full use of remaining vision.

e-Learning for Health

[Link to e-Learning for Health]

Useful Resources

- RNIB support and patient leaflet available via [www.rnib.org.uk](http://www.rnib.org.uk)

People involved in creating this resource

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The College of Optometrists and The British and Irish Orthoptic Society were also consulted on an early draft.

References


