

Title: Emerging Trends in Age-related Macular Degeneration

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Length: 1 hour

Description:

Age-related macular degeneration (AMD) imposes an enormous burden on optometrists and ophthalmologists, office staff, caregivers, and above all, patients and their loved ones. This course presents new clinical insights and in an effort to ease this burden, making the case for an emerging systemic approach to AMD that is similar to how we view diabetic retinopathy and retinal vascular occlusion.

Goal:

To use mounting scientific evidence for an emerging systemic approach to AMD, fostering collaboration and integrative patient care among optometrists and providers from other health professions.

Objectives:

1. Discuss the epidemiologic and economic burdens of posterior segment disease.
2. Review evidence suggesting that AMD is a systemic disease and an indication of more widespread metabolic dysfunction.
3. Develop effective management/co-management and protocols for patients with AMD and other common vitreoretinal conditions of systemic origin.
3. Use today's technology as well as traditional methods for early diagnosis.
4. Take proactive measures to prevent or slow progression of sight-threatening complications, using an emerging systemic approach.
5. Discuss new and emerging treatments for non-neovascular AMD and neovascular AMD.

Course Outline

I. Introduction

- A. AMD Defined
 - 1. Evidence for AMD as a systemic condition
 - 2. Systemic treatments and strategies for AMD prevention and Treatment.
- B. Co-management and Interprofessional Care Defined
 - 1. Co-management- a relationship between practitioners for shared responsibility in patient care.
 - a. Patient must consent
 - b. Providers must agree to share patient care.
 - 2. Interprofessional Practice/Care- the provision of comprehensive health services to patients by multiple caregivers who work collaboratively to deliver quality care within and across settings.
 - 3. General Guidelines for Co-management and Referral

II. Epidemiology

- A. Statement of the Problem
 - 1. Prevalence of Ocular Diseases
- B. The Burden of Disease
- C. The Burden of Treatment

III. Systemic and Other Aspects of Age-related Macular Degeneration

- A. Age Related Eye Disease Study estimated a prevalence of more than 8 million individuals in the US with at least “intermediate” AMD in one eye who are at risk for “advanced” AMD.
 - 1. AMD has a genetic component but the disease is “multifactorial”.
 - 2. Environmental, dietary, medical and lifestyle factors are influential.
- B. Risk Factors
 - 1. Cigarette Smoking – most important avoidable risk factor
 - 2. Age – most significant risk factor (> 65 years old)
 - 3. Positive family history of AMD
 - 4. Hypertension
 - 5. High levels of LDL and low levels of HDL cholesterol
 - 6. Diet rich in polyunsaturated fats
 - 7. Female gender
 - 8. Cardiovascular disease
 - 9. Hyperopia
 - 10. Blue iris color
 - 11. Increased C-reactive protein

12. Increased white blood cell count
13. Obesity (higher body mass index)
14. Race: Whites > Hispanics > Blacks
15. Low Macular Pigment Optical Density (MPOD)
16. Poor dark adaptation

C. Systemic Wellness, Diet and AMD

1. Dietary “Ancillary Study” within the multi-center “Eye Disease Case-Control Study”
2. Evaluated the relationships between the intake of carotenoids and Vitamins A, C and E and the risk of ARMD
3. Results showed that a higher dietary intake of carotenoids was associated with a lower risk for ARMD
4. Also showed that the carotenoids, lutein and zeaxanthin were most strongly associated with this reduced risk
5. The National Health and Nutrition Examination Survey
 - a. Found that higher levels of lutein and Zeaxanthin were related to lower odds for pigment abnormalities (an early sign of AMD)
6. Lutein and Zeaxanthin Appear naturally in the macula
 - a. Are an essential dietary carotenoid (yellow to red pigments found in plants)
 - b. Functions as a natural sunscreen (decreases blue light scatter)
 - c. Provides antioxidant defense against free radicals
 - d. May improve visual function

D. Available technologies for early detection and monitoring of AMD

- Macular Pigment Optical Density (MPOD)
- Optical Coherence Tomography (OCT/OCTA)
- Rod-mediated Dark Adaptation (RMDA)
- Home Preferential Hyperacuity Perimetry (PHP)

E. Current and Emerging Treatment, Management, and Co-management of non-neovascular AMD.

F. Current and Emerging Treatment, Management, and Co-management of neovascular AMD.

IV. Other Retinal Manifestations of Systemic Disease

A. Diabetic Retinopathy: Systemic Treatment, Management, and Co-management

B. Retinal Vascular Occlusions: Systemic Treatment, Management, and Co-management

a. RAO

b. RVO

Notes: