Retina in Focus: Core Conditions and Cutting-Edge Therapies

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1 hour

Course Description:
This course will discuss common retinal pathologies including age-related macular degeneration, diabetic retinopathy, retinal vascular occlusive disease, peripheral retinal pathology, and vitreomacular interface disorders with a focus on early diagnosis and management highlighted through case studies and evidence-based insights. Advancements in treatment including pharmacotherapy, emerging treatment and imaging technologies will also be highlighted.

Learning Objectives:
At the conclusion of this course, attendees will be able to:

1) Understand the pathophysiology and risk factors of age-related macular degeneration
2) Identify diagnostic and treatment approaches for diabetic retinopathy and diabetic macular edema
3) Evaluate the clinical presentation, management, and risk factors for development of retinal vein occlusion
4) Assess the diagnosis and management of retinal detachment and vitreomacular interface disorders

Outline:

I. Age-related macular degeneration
    - Prevalence
        - third leading cause of visual impairment
        - 9% of blindness worldwide
    - RPE-Bruch's membrane complex
        - Development of drusen
            - drives photoreceptors and RPE loss
    - Risk factors
        - Genetics
        - Physiology
        - environment
    - Staging AMD
        - Beckman scale
        - Advanced disease:
            - geographic atrophy
            - neovascular AMD
    - Treatment options:
        - nAMD-intravitreal anti-VEGF
            - Goal of newer therapeutics

        - increased durability
        - Thermal laser in 2025?
    - Geographic atrophy-complement inhibitors
        - Goal is to slow disease progression

II. Diabetic retinopathy
    - Leading cause of blindness in working age Americans
    - Non-proliferative DR
        - Staging
        - Severe NPDR-risk of development of PDR within 12 months
    - Proliferative DR
        - High-risk proliferative DR
    - Monitoring recommendations
    - Diabetic macular edema
        - Center-involved vs. non-center involved
        - Treatment of CI-DME
            - DRCR Protocol V
            - Anti-VEGF

III. Retinal vein occlusion
    - Partial or complete obstruction of a retinal vein
        - Central-retinal vein occlusion
        - Hemi-retinal vein occlusion
        - Branch-retinal vein occlusion
        - Ischemic or non-ischemic?
    - Systemic risks
    - Clinical findings
        - Acute
        - Chronic
            - Neovascularization
    - Treatment
        - Macular edema-intravitreal anti-VEGF
        - Intravitreal, steroid photocoagulation
        - Neovascularization-PRP anti-VEGF

IV. Retinal detachment
    - Rhegmatogenous RD-risk factors
        - Macula on-vs-macula off
        - Treatment
            - Laser photocoagulation
            - Pars plana vitrectomy
                - Tamponade agent of choice?
            - Pneumatic retinopexy
    - Retinal tears

- Lattice degeneration

V. Vitreomacular interface
   - Epiretinal membrane-glial cell proliferation
   - Vitreomacular traction-anatomic macular change
     - Why is it more common in women?
   - Management
     - When to refer for surgical consultation
       - Primarily driven by central acuity
     - Spontaneous resolution
       - 11-53% of cases (15-18 months)

VI. Q&A / Discussion