

Course #

064

Everything You Always Wanted
to Know about Ocular
Inflammation and Immunology...

(CE)²Next^o
CONTINUING EDUCATION
TO THE NEXT DEGREE

Everything You Always Wanted to Know about Ocular Inflammation and Immunology ... ** But Were Afraid to Ask

This course will review the signs and symptoms of inflammatory eye disease. The course also will cover the various immunological treatment options available to reduce inflammation and pain.

Course objectives:

Know the significant ocular immunologic responses to inflammation

Know the classification scheme for specific ocular syndromes

Describe the diagnostic importance of systems review

Know the appropriate laboratory and clinical measures for etiologic diagnosis

Know the natural history and course of the ocular immunological response

Know the appropriate medical therapy for patients with chronic immunologic inflammation

INTRODUCTION

The ocular immunologic response is not very forgiving and often leads to chronic inflammation. This course addresses the multisystem approach to diagnosis and management of ocular tissue response to immunological happenstance

I. INTRODUCTION AND OVERVIEW

- A. Definition and overview
- B. Clinical responsibility
- C. Role of primary eye care in managing chronic ocular inflammation

II. CLASSIFICATION SCHEMES

- A. Specific syndromes
- B. Etiology
- C. Clinical features

- 1. Symmetry – unilateral vs. bilateral

D. Anatomical location

- A. Anterior (iritis, cyclitis, iridocyclitis): many systemic conditions and local ocular diseases
- B. Intermediate: often local ocular autoimmune diseases
- C. Posterior (retinitis, choroiditis, retinochoroiditis, chorioretinitis, retinal vasculitis)
 - a. Retina: systemic infectious diseases: CMV, TB, lues, toxoplasmosis
 - b. Retinal vessels: systemic vasculitis, rheumatologic disorders
 - c. Choroid: systemic and ocular autoimmune and infectious diseases
 - d. Diffuse (panuveitis): severe autoimmune and infectious diseases

III. Onset, progression

- A. Age of onset
- B. Comorbidities
- C. Coincidental systemic conditions
- D. Onset
 - 1. Acute
 - 2. Chronic
 - 3. Recurrent
 - 4. Intermittent

IV. Gender and distribution

- A. Males vs. females
- B. Caucasians vs. Asians vs. Blacks
- C. Young vs. old

V. Epidemiology/scope of the problem

- A. Prevalence/incidence
 - 1. Regional distribution
 - 2. Geographic
 - 3. State of health care

VI. Pathophysiology

- A. Granulomatous inflammation
 - 1. Chronic
- B. Nongranulomatous: Fuchs', JRA, Reiter's, ankylosing spondylitis

VII. Extent of disease

- a. Local ocular, eg., pars planitis

- b. Systemic diseases: eg, Reiter's syndrome, TB, sarcoidosis

VIII. Origins of the inflammatory disease

A. Endogenous: internal invasion of the tissue by microorganisms, antigens, or irritants

1. Anterior
 - a. HLA-B27 associated
 - b. Idiopathic
2. Intermediate
 - a. Pars planitis
 - b. Systemic disorders
 - c. Idiopathic
3. Posterior and diffuse inflammation
 - a. Infectious
 - b. Vasculitis
 - c. Autoimmune
 - d. Masquerade
 - e. Collagen disorders
 - f. Idiopathic

C. Exogenous: caused by external injury of the globe or by external invasion of tissue by microorganisms, antigens or irritants from a source outside the body.

1. Viral (AIDS retinopathy, ARN, PORN): HSV, VZV, CMV, EBV, HIV
2. Spirochete
3. Fungus/yeast
4. Parasite
5. Tubercle
6. Post operative (endophthalmitis)

IX. Etiopathologic mechanisms

A. Trauma, including surgical

B. Infection, including

1. Viral
2. Bacterial
3. Fungal
4. Helminthic

C. Immunologic disorders

D. Masquerade syndromes

1. Neoplasm
2. Vascular
3. Congenital
4. Metabolic/degenerative

X. Uveitis workup/survey

A. History

1. Demographic history
2. PMHx/POHx
3. FMHx/FOHx
4. Coincidental systemic disorders
5. Medications

B. Tissue response/manifestation

1. Cornea
 - a. Edema, KP
2. Anterior chamber
 - a. Cells/flare
 - b. Hyphema
 - c. Neovascularization
3. Iris
 - a. Synechiae
 - b. Nodules
 - c. Atrophy

XI. Diagnosis

A. Targeted approach

1. Visual function
2. Laboratory investigation
3. FFA/ICG angiography
4. Ophthalmic imaging
 1. OCT
 2. SLO

5. CT/MRI
 6. Antibody testing
- B. Differential diagnosis
1. Anterior segment signs and symptoms
 1. Hyphema
 2. Band Keratopathy
 3. Glaucoma
 4. Keratopathy
 5. Nodules
 2. Posterior segment signs and symptoms
 1. Vitreous hemorrhage
 2. Inflammation
 3. CME
 4. Neovascularization
 5. Retinal vasculitis
 3. Systemic signs and symptoms
 1. Oral ulcers
 2. Arthritis/arthralgia
 3. Asthma/pulmonary challenge
 4. GI
 5. Dermatologic
 6. Urinary tract

XII. General principles of therapy

- A. Urgent care
 1. Steroids, cycloplegics, antihypertensives
- B. Therapy for macular edema
- C. Stress management
- D. Dietary and other lifestyle alterations – adequate rest and exercise.
- E. Long and short-term treatment goals
- F. Risk/benefit
- G. Stepped up approach to therapy

1. Oral steroids, NSAIDs, immunosuppressants

XIII. Conclusion and summary