Anterior Segment Disease: Treatment and Co-management

Abstract: The optometrist can play a primary and significant role in managing anterior segment disease. This course will present several cases representative of conditions that optometrists can either manage themselves or co-manage with ophthalmologists and other medical specialties.

Learning Objectives:

- To become familiar with complex corneal and anterior segment conditions
- Management and treatment options for anterior segment disease
- Know when to refer and co-manage with other medical specialties

Course Outline:

1. Case one
   a. History
   b. Evaluation
   c. Treatment
   d. Sjogren’s Syndrome
      i. Etiology
         1. Primary or secondary Sjogren’s Syndrome
         2. Diagnosis
            b. positive anti-SSA or anti-SSB antibody results
            c. salivary gland biopsy
            d. Sjo in-office testing
      ii. Systemic and ocular signs and symptoms
         1. Xerophthalmia
         2. Xerostomia
         3. Parotid gland enlargement
      iii. Diagnostic markers and tools for dry eye
         1. Tear film assessment (volume, stability, osmolarity)
         2. Vital dyes (fluorescein, lissamine green)
      iv. Management
         1. Lubrication
         2. Cyclosporine A
         3. Topical steroids
         4. Punctal occlusion
         5. Autologous serum eye drops
         6. Bandage soft contact lenses
         7. Scleral lenses/Ocular prosthetic devices
8. Co-management with rheumatologist, dentist

2. Case two
   a. History
   b. Evaluation
   c. Treatment
d. Chronic Graft versus Host disease (cGvHD)
   i. Etiology
      1. Complication of autologous stem cell or bone marrow transplant
   ii. Systemic and ocular signs and symptoms
      1. cGvHD develop after first 100 days after transplant
      2. Affects skin, liver, GI system, lungs, eyes
   iii. Management of ocular symptoms
      1. Dry eye management
         a. Lubrication
         b. Cyclosporine
         c. Punctal plugs
         d. Autologous serum eye drops
         e. Scleral lenses/Ocular prosthetic devices
      2. Steroid (topical and systemic) for inflammation control
      3. Co-management with ophthalmologist, oncologist

3. Case three
   a. History
   b. Evaluation
   c. Treatment
d. Stevens Johnson Syndrome
   i. Etiology
      1. Infections
      2. Drug induced
   ii. Presentation
      1. Prodromal period: fever, chills, headache, sore throat, malaise
      2. Mucocutaneous lesions
      3. Ocular involvement:
         a. Conjunctival/cicatricial changes
         b. Keratinization of tarsal conjunctiva and lid margins
         c. Distichiasis, trichiasis
         d. Symblepharon
         e. Limbal stem cell deficiency
            i. Persistent epithelial defects
            ii. Conjunctivalization of cornea
            iii. Neovascularization
iii. Management

1. Acute care
   a. Topical steroids
   b. Amniotic membrane transplantation
   c. Scleral shell spacer

2. Chronic care
   a. Artificial tears
   b. Autologous serum tears
   c. PROSE, scleral lenses
   d. Mucous membrane grafts lid margin, tarsal conjunctiva
   e. Limbal stem cell transplantation
   f. Kerato-prosthesis

4. Case four
   a. History
   b. Evaluation
   c. Treatment
   d. Ocular Herpetic disease
      i. Herpes Simplex Keratitis
         1. Signs and symptoms
            a. Dendritic keratitis
            b. Neurotrophic keratitis
            c. Stromal disciform keratitis
            d. Anterior uveitis
         2. Management
            a. Acute treatment
               i. Topical antivirals
                  1. Ganciclovir
                  2. Trifluridine
               ii. Systemic
                  1. Acyclovir
                  2. Valacyclovir
                  3. Famciclovir
               iii. Cycloplegia
               iv. Debridement
            b. Chronic treatment
               i. Prophylaxis regimen
               ii. Prosthetic devices/scleral lenses
      ii. Herpes Zoster Ophthalmicus
         1. Signs and symptoms
            a. Vesicular skin lesions along CN V
b. Pseudo-dendritic keratitis
c. Stromal disciform keratitis
d. Neurotrophic keratitis
e. Anterior uveitis
f. Scleritis

2. Treatment
   a. Topical antivirals
   b. Topical steroids
   c. Systemic antivirals

3. Chronic treatment
   a. Prophylaxis regimen
      i. Maintenance dose of acyclovir/valtrex
      ii. Herpes vaccine (Zostavax)
   b. Prosthetic devices/scleral lenses

5. Case five
   a. History
   b. Evaluation
   c. Treatment
   d. **Corneal graft rejection**
      i. Indications for penetrating keratoplasty
         1. Keratoconus
         2. Pseudophakic bullous keratopathy
         3. Fuch’s Dystrophy
      ii. Post surgical co-management with ophthalmologist
      iii. Signs and Symptoms of graft rejection
      iv. Management
         1. Topical steroids
         2. Systemic immunosuppression
         3. Cycloplegia
         4. IOP control
         5. Indications for re-graft

6. Case six
   a. History
   b. Evaluation
   c. Treatment
   d. **Boston Keratoprosthesis implantation**
      i. Indications for Boston Keratoprosthesis
         1. Limbal stem cell deficiency
         2. Multiple (>3) failed full-thickness grafts
      ii. Types of Keratoprosthesis
         1. Type I
2. Type II
   iii. Post-surgical co-management with ophthalmologist
       1. Clinical evaluation of keratoprosthesis
       2. Bandage contact lens replacement
       3. Long-term topical antibiotic use
   iv. Potential complications associated with keratoprosthesis
       1. Epithelial defect
       2. Corneal melt/extrusion
       3. Epithelial overgrowth
       4. Retroprosthetic membrane
       5. Glaucoma