Clearing Up Angioid Streaks

Mike Radoiu, OD, FAAO, Diplomate (PC)

Introduction-

An overview of the condition will be covered as well as it’s association with various systemic diseases that an optometrist can help co-manage.

Historical Background-

A historic narrative of the condition’s discovery and the evolution of management will be discussed.

Anatomy-

Basic anatomy of intraocular structures with a special emphasis on the choroidal structures will be discussed.

Pathophysiology-

The pathophysiology of angioid streaks at the cellular and large tissue level will be covered.

Choroidal Neovascularization-

A specific overview of neovascularization in the choroidal and retinal tissues is covered as it relates to intraocular health and vision.

Angioid Streak Presentation in Systemic Disease-

Cases of associated angioid streak presentation will be given as they arise in specific disease states.

Etiology-

An indepth discussion of the major diseases associated with angioid streaks will be discussed.

a) Pseudoxanthoma Elasticum

b) Paget’s Disease

c) Sickle Cell Disease
d) Ehler’s-Danlos Syndrome

e) Other Possible Causes-

f) Idiopathic

Differential Diagnosis-

Systemic Diagnostic Workup

Ocular Presentation

Ocular Workup

Treatment

Conclusion

References

Questions??
Roth Spots – Beyond Endocarditis

Hal Bohlman, OD, FAAO, Diplomate(PC)

PO Box 4000, Attn. Eye Clinic, Mountain Home, TN 37684

halbohlman@va.gov

Objectives

1. Gain a working knowledge of the differential diagnosis for Roth Spots
2. Understand the pathophysiology and histopathology of Roth Spots
3. Learn what laboratory testing can and should be ordered for patients with Roth Spots

I. Introduction

Present a case report of an asymptomatic patient that presented with Roth Spots in both eyes. Review the differential diagnosis for Roth Spots, the appropriate testing to confirm the etiology and the various treatment and management options.

II. Case Report

a. Presentation
b. Photos
c. OCT
d. Visual field

III. Differential diagnosis of Roth spots

a. Sub-acute bacterial endocarditis
b. Leukemia
c. Anemia
d. Anoxia
e. CO poisoning
f. Hypertensive retinopathy
g. Diabetic retinopathy
h. HIV retinopathy

IV. Histopathology of Roth Spots

V. Case report continued
   a. Diagnosis
   b. Outcomes
   c. Complicating factors
   d. Multidisciplinary management

VI. Multiple Myeloma
   a. Risk factors
   b. Treatment
   c. Treatment complications
   d. Ocular manifestations of treatment

VII. Blood disorders in the retina
   a. Anemia
   b. Hemoglobinopathies
   c. Hypercoagulable states
   d. Immunodeficiency
   e. Hematological malignancies

VIII. Correlation and conclusions
Course title: **PCS Comprehensive Update**

Course description: Due to the exponential rate of increase in medical knowledge, it’s been stated that no one physician can keep up with the information. This course will provide a survey of new information across the breadth of eye care including clinical optometry (contact lens, functional vision, low vision), ocular disease (glaucoma, anterior segment, posterior segment), and related systemic conditions (pharmacology, principles of diagnosis, systemic/ocular disease) with an emphasis on the systemic nature of both vision and disease.

Course objectives:

1. Highlight findings and developments across the breadth of eye care over the last 24 months.
2. Review the importance of proper medical, family, and social histories to comprehensive care.
3. Review the importance of the review of systems to comprehensive care.
4. Relate how the material is useful to candidates for the PCS Dipl. Program.

Course category: Systemic/Ocular Disease (SD) (majority of material, time, and discussion)

Time: One hour

Presentation: Lecture

Format: Live
Course outline:

Michael W. Ohlson, OD, FAAO
104 N. Walnut St.
West Union IA 52175
mwohlson@gmail.com
(563) 422-6085 office
(563) 422-7528 cell

Course title: PCS Comprehensive Update

I. Clinical Optometry
   a. Contact lens
      i. Diverse set of micro-organisms in eyes of CL wearers
         1. 3x the usual proportion of methylcobacterium, lactobacillus, acinetobacter, pseudomonas
         2. Similar to skin
            a. Medical hx, general observation
   b. Functional vision/Pediatrics
      i. Amblyopia may alter speech perception
         1. McGurk effect
         2. May be unfairly categorized as delayed, etc.
            a. Soc hx, general observation
   c. General optometry
      i. Why do some patients not follow instructions?
         1. Tells
            a. Incomplete forms
            b. Inaccurate forms
            c. Missed appts
         2. Questions re. literacy skills
         3. Teach-back technique
            a. Mood, affect, orientation, social hx
   ii. Compliance
      1. Motivational interviewing
      2. New-Motivational communication
         a. Mood, affect, orientation, SHx
   iii. Anchoring bias
      1. Example: GCA
   iv. Presbyopia and carbochol-brimonidine
      1. Miosis
      2. HA-10%
      3. Once/day dosage
   d. Low vision
      i. Driving
         1. VF already limited when driving
2. Left and lower VFs seem most relevant so far
3. Glaucoma incr. risk
4. VA and CSF; odd disparity with CSF; possibly protective
   a. Social hx, orientation, mood, affect, ROS
ii. Multisystemic smooth muscle dysfunction syndrome
   1. Med hx, ROS
iii. Parkinson disease and CSF
   1. iPad app
      a. Medical hx, social hx, ROS

e. Public health
   i. Severe vision loss linked to poverty
   ii. Geriatrics neglect by physicians?
   iii. HZ vaccine-role of OD?
   iv. Abuse
      1. Social hx, mood, affect, general observation

II. Ocular Disease
a. Glaucoma
   i. OSA and glaucoma
      1. Severe OSA is important risk factor
      2. CV, HTN, insulin resistance, sleepiness/MVA
         a. ROS, general observation
   ii. 5 ocular diagnoses associated with OSA: FES, GLC, papilloedema, NAION, RVO
      1. Medical hx, ROS
   iii. ED and glaucoma
      1. ROS, mood
b. Peri-operative management
   i. Cataract and preoperative testing
   ii. Drop-free cataract surgery
      1. Medical hx, social hx, ROS
c. Refractive surgery management
   i. TBD (?)
d. Treatment and management of ocular disease: anterior segment
   i. Dry eye and neurotrophic pain
      1. Review different types of pain
      2. Chief complaint, HPI, medical hx, ROS, mood
   ii. Electrical burn and cataract (image)
   iii. EKC and deep orbital inflammation
      1. Systemic nature of adenovirus
      2. Lacrimal gland/tearing
   iv. Corneal ulcers and topical steroids
      1. Second look at SCUT
      2. Acuity outcomes
e. Treatment and management of ocular disease: posterior segment
   i. Calcium supplements associated with AMD?
      1. Not causal
a. Medical hx, mood

ii. AREDS2
   1. Totality of evidence?
      a. Mood, ROS

III. Related Systemic Disease
a. Mental status assessment
b. Neuro-optometry
   i. “Please stop using PERRLA”
      1. Can have RAPD
      2. In the light, in the dark, swing the light
c. Oral pharmaceuticals
   i. Doxycycline and DR
   ii. Azithromycin versus doxycycline and MGD
      1. Equal
      2. Shorter tx
d. Pharmacology
   i. Hydroxychloroquine and retinopathy
      1. How common?
      2. How to determine risk?
         a. General observation, mood, affect, medical hx
   ii. Drug-induced uveitis
      1. Very broad
      2. Medical hx, ROS
e. Principles of diagnosis
   i. Hysteresis and glaucoma
   ii. OCT
      1. Outer retinal layers and disease
      2. More (VAMPIRE, etc.)
f. Systemic/ocular disease
   i. Chronic fatigue syndrome
      1. Multiple ocular sx
         a. CC, HPI, medical hx, social hx, mood, ROS
   ii. RVO and CVA
      1. Limited study, not surprising
      2. 16% with RVO to CVA compared with 11% of control
         a. ROS
   iii. Sjogren’s syndrome and systemic complications
      1. Medical hx, ROS, mood
Abstract

The use of oral pharmaceutical agents in an optometric practice expands the doctor’s ability to successfully manage a host of ocular conditions. This course discusses the most commonly used oral agents in treating eye diseases.

Learning Objectives

After completing the course, the attendee should be able to:

1. Determine the appropriate oral antibiotic to use in soft tissue infections of the eye and orbit
2. Utilize oral antivirals for acute epithelial infections and for prophylaxis
3. Understand the AREDS vitamin formulation for the treatment of age-related macular degeneration
4. Recognize the clinical utility and abuse potential of oral narcotic analgesics
5. Understand the indications for oral anti-glaucoma medications
6. Recognize the potential side effects of oral medications

Outline – Oral Agents in Optometric Practice

I. General Caveats regarding Oral medications
   a. Precautions for prescribing oral agents

II. Antibiotics
   a. Augmentin (Amoxicillin/Clavulanic Acid)
b. Dicloxacillin
c. Cephalexin (Keflex) & cefaclor
d. Cefadroxil
e. Trimethoprim/sulfamethoxazole
f. Doxycycline
g. Erythromycin
h. Azithromycin
i. Ciprofloxacin & Oral Fluoroquinolones
j. Telithromycin (Ketex)

III. Antivirals
a. Acyclovir (Zovirax)
   i. Dosage for active infection vs. disease prophylaxis
b. Valacyclovir (Valtrex)
c. Famcyclovir (Famvir)
d. Zostavax varicella zoster vaccine

IV. Anti-inflammatories
a. Prednisone
b. Methylprednisolone (medrol dose-pak)

V. Analgesics
a. OTC oral analgesics
   i. Aspirin
   ii. APAP
   iii. Ibuprofen
   iv. Naproxen
b. Non-narcotic prescription analgesics
   i. Ibuprofen
   ii. Naproxen
   iii. Indomethacin
   iv. Tramadol
c. Narcotic analgesics
   i. Tylenol with codeine #3
   ii. Lortab
   iii. Vicodin
   iv. Vicodin ES
   v. Percodan
vi. Percocet
vii. Tylox

VI. References