Residents Day 2017

AIDS and Primary Eyecare:
Update and Associated STDs
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Albert D. Woods, M.S., O.D., F.A.A.O.
Associate Professor
Director of Clinical Electrodiagnostic Service
Nova Southeastern University
albert@nsu.nova.edu

COURSE DESCRIPTION

This course presents the changing epidemiology of HIV/AIDS in the global and USA population, the common ocular findings of HIV/AIDS and STD (Sexually Transmitted Disease) related disorders, work-up and primary care management of these patients including universal precautions.

COURSE OBJECTIVES

1. **To be able to describe the changing epidemiology of HIV/AIDS and how this may impact the primary eyecare setting**
2. **Incorporate into the primary eyecare setting universal precautions**
3. **Recognize clinically and be aware of the management of the more common ocular conditions associated with HIV/AIDS**
4. **Recognize common STDs that occur in HIV/AIDS patients and what the appropriate management should be in a primary eyecare setting**

COURSE OUTLINE

A. Update to Current Status of the Disease - Global vs. USA vs. Florida
New developments in systemic HIV/AIDS over the past year:

NOTES:

1. Update on infection rate and treatment failures
2. Web update

http://aids.about.com
http://hivinsite.ucsf.edu
www.hivpositive.com
www.hopkins-aids.edu

B. UNIVERSAL PRECAUTIONS IN CLINICAL PRACTICE

* HIV has been detected in tears, conjunctiva, cornea, retina

1. **Hand washing**
   - Soap and water between each patient
2. **Gloves**
   - If open wound, weeping lesions, dermatitis or exposure to tears or mucous membranes
   - Discard after each patient
3. **Gowns and masks**
   - Unnecessary for routine exams unless if splashing of blood products is anticipated
4. **Disinfecting equipment**
   - **a. Goldmann tonometer**
     - 90% alcohol wiped vigorously, rinsed with water and air dry or
     - Soak in fresh 3% hydrogen peroxide for 5 minutes or
     - Soak in fresh 1:10 dilution of bleach for 5 minutes
   - **b. Gonio prisms or other instruments**
     - Wiped clean and then disinfected in above regimen
   - **c. Trial Contact lenses (**Disinfecting depends on type of lenses)
     - ***Soft contact lenses***
       1. Commercially available hydrogen peroxide contact lens system or (*AOSEPT*, *Pure Eyes, etc.*)
       2. Standard heat disinfecting (80 degrees for 10 minutes)
     - ***RGP contact lenses***
       1. Commercially available hydrogen peroxide contact lens system
     - ***What about newer non-hydrogen peroxide systems?***

C. HIV LAB TESTING

Diagnostic testing

1. **ELISA *(Enzyme-Linked ImmunoSorbent Assay)***
2. **Western Blot**
3. **What about the in-office testing: Rapid HIV-1 Testing, and new FDA rule for home testing.**

Monitoring progression

1. **CD4 –** *state of immune system, reconstitution syndromes*
2. **Viral Load** – *HIV-RNA in blood, standard for following treatment*

D. HIV PHARMACEUTICAL AGENTS

*** What's new in medications** NOTES:

- **PEP (Post-exposure prophylaxis) → within 72 hrs, treatment for ~4 weeks, test at 3 & 6 months**
  → Truvada (tenofovir & emtricitabine) + Isentress (raltegravir)

***New developments in Ocular HIV/AIDS*:** NOTES:

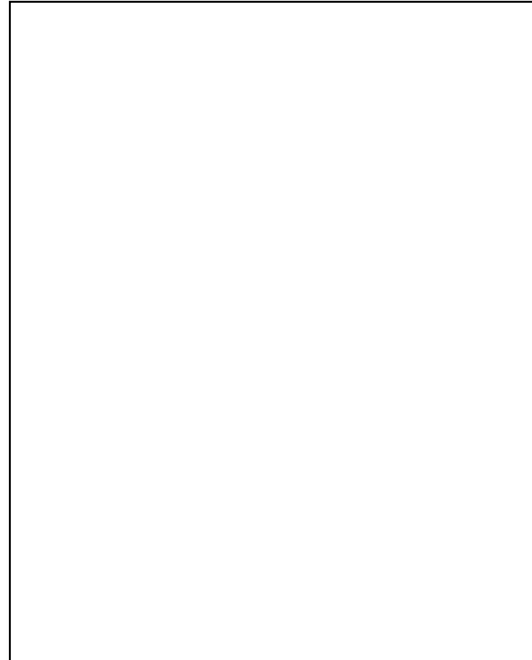
HIV and the Eye - *http://www.cmej.org.za/index.php/cmej/article/view/2673/2903*

Ophthalmic Manifestations of HIV - *http://www.djo.harvard.edu/site.php?url=/physicians/oa/674*

CMV Treatment - *http://www.retinalphysician.com/issues/2014/jan-feb/update-on-diagnosis-and-treatment-of-cmv-retinitis*

E. OCULAR FINDINGS OF HIV/AIDS – a photo journey

NOTES:



NON-INFECTIOUS RETINAL

Cotton wool spots
Retinal hemorrhages
Microvascular abnormalities
Vascular abnormalities
NFL defects

INFECTIOUS RETINAL

CMV Retinitis
Acute retinal necrosis (ARN)
Rapidly progressive outer retinal necrosis (PORN)
Toxoplasmosis
Syphilis

ANTERIOR SEGMENT

Dry eye syndrome/KCS
Ulcerative keratitis
Herpes zoster ophthalmicus
Herpes simplex keratitis
Molluscum contagiosum
Microsporidiosis
Kaposis sarcoma

F. Sexually Transmitted Diseases →

1. CHLAMYDIA

General Fact Sheet: ***http://www.niaid.nih.gov/factsheets/stdclam.htm***

Adult Inclusion Conjunctivitis

Chlamydial trachomatis

Obligate intracellular parasite
Contains RNA and DNA
Serotypes :
A-C = Trachoma
D-K = Inclusion Conj. and Genital

OCULAR FINDINGS

INCUBATION OF 2-19 DAYS
TRANSMITTED BY DIRECT CONTACT
CHRONIC CONJUNCTIVITIS
Unilat/Bilat.
Follicles (HALLMARK) and papillae
Mucopurulent discharge
KERATITIS
Diffuse fine SPK
Onset 2-3 wks after onset conjunctivitis
Small subepithelial infiltrates
Superior corneal pannus
ANTERIOR UVEITIS
Mild/Nongranulomatous
PALPABLE PRE-AURICULAR NODES (PAN)

LAB W/U AND TREATMENT

AZITHROMYCIN (Zithromax) → 1 gram single dose **[NEW CAUTION!]**
DOXYCYCLINE → 100 mg po bid x 1 wk
ALT TX: ERYTHROMYCIN or LEVOFLOXACIN or OFLOXACIN
Why it should not be treated with TETRACYCLINE

2. HERPES SIMPLEX VIRUS (HSV)

General Fact Sheet: ***http://www.niaid.nih.gov/factsheets/stdherp.htm***

HSV-1 (Oral)
HSV-2 (Genital)

STD GENITAL INFECTION

> 50% HSV-II infection asymptomatic
Symptoms 2-12 days post exposure
Paresthesias and burning
Malasie, aching, fever
Vesicular skin lesions
Tender, enlarged lymph nodes
Sx's and Si's last 2-6 wks
App. 80% HSV-II and 50% HSV-I recurrence by one year

STD OCULAR INFECTION

Direct transmission or autoinoculation
Onset 1-2 weeks after genital lesions
Vesicular skin lesions
Tender, enlarged lymph nodes
Follicular conjunctivitis
Epithelial punctate keratitis
Rare progression to dendrite
Subepithelial infiltrates
App. 50% recurrence at 5 yr's

TREATMENT (Oral Tx Aspects)

GENITAL FIRST-EPISODE
Acyclovir 200 mg 5X / Famciclovir 250 mg 3X / Valacylovir 1 g 2X; any med is (7-10 dys)
GENITAL RECURRENT
Acyclovir 400 mg 3X / Famciclovir 125 mg 2X; either med id (5 dys)
Other Points:
Famciclovir: good for later episodes of genital herpes
Valacyclovir: treats later episodes of genital herpes and helps prevent future outbreaks.

3. ACQUIRED SYPHILIS

General Fact Sheet: *http://www.niaid.nih.gov/factsheets/stdsyph.htm*

Treponema pallidum

Spirochete → Darkfield/EM for visualization

OCULAR FINDINGS

PRIMARY STAGE

Eyelid or conjunctiva chancre
Assoc. lid edema, papillary conjunctivitis,
preauricular and submandibular lymphadenopathy

SECONDARY STAGE

ANTERIOR SEGMENT

UVEITIS

Panuveitis (47%), anterior (29%), posterior (18%), BILAT >50%
Granulomatous → Mutton-fat KP's
Mild chronic / Severe with hypopyon

ALOPECIA OF BROWS/LASHES
CONJUNCTIVITIS
EPISCLERITIS/SCLERITIS
INTERSTITIAL KERATITIS

POSTERIOR SEGMENT

CHORIORETINITIS

Diffuse or focal
Possible exudative retinal detachment
Possible necrotizing retinitis
Resolved leaves RPE mottling, bone spiculing

VASCULITIS
CYSTOID MACULAR EDEMA
RETINAL VAS. OCCLUSIONS

NEUROSYPHILIS
OPTIC NEURITIS
OPTIC PERINEURITIS
PAPILLEDEMA
OPTIC ATROPHY
CN III and CN VI PALSIES
ARGYLL ROBERTSON PUPIL

LAB W/U AND TREATMENT

Penicillin drug of choice
IV PCN if neurosyphilis
NEUROSYPHILIS/OCULAR → PCN-G 18-24 million-units as IV infusion x 10-14 days
HIV (+) → PCN-G 2.4 million units IM 1X
PCN-ALLERGIC
Ceftriaxone IV
Tetracycline p.o.
Doxycycline p.o.

4. **GONOCOCCAL INFECTION** (*Neisseria gonorrheae)*

General Fact Sheet: ***http://www.niaid.nih.gov/factsheets/stdgon.htm***

OCULAR FINDINGS

acute conjunctivitis with pain
marked lid edema
severe purulent discharge
conjunctival membranes/pseudomembranes
CAN PENETRATE INTACT CORNEA
→ keratitis, ucler, perforation

LAB W/U AND TREATMENT

Strongly consider referral in these cases
1. Ceftriaxone or Cefixime and Azithromycin or Doxycycline
2. Topical fluoroquinolone Ab's (Ofloxacin or Ciprofloxacin) - Maybe

5. PEDICULOSIS
(*Pthiriasis pubis*)

OCULAR FINDINGS

c/o itching/lid irritation
crusting marginal appearance with blood-tinged debris
nits (eggs) and organism adherent to lashes

TREATMENT

1. Control source of infection
2. Mechanical removal with forceps
3. White petroleum jelly or physostigmine UNG → 10 - 14 days
4. 10% NaFl soln (FANG soln)
5. Kwell/Rid shampoo

G. HIV & STD INTERACTION

SYPHILIS
Genital ucler → *increased uptake HIV*
HIV → accelerated progression dz
GONORRHEA
? increased uptake HIV
HIV → increased gonococcal PID
HERPES
Genital ucler → *increased uptake HIV*
HIV → multicentric dz
→ increased size/duration lesions
→ increased recurrences
CHLAMYDIA
? increased uptake HIV secondary to chronic PID