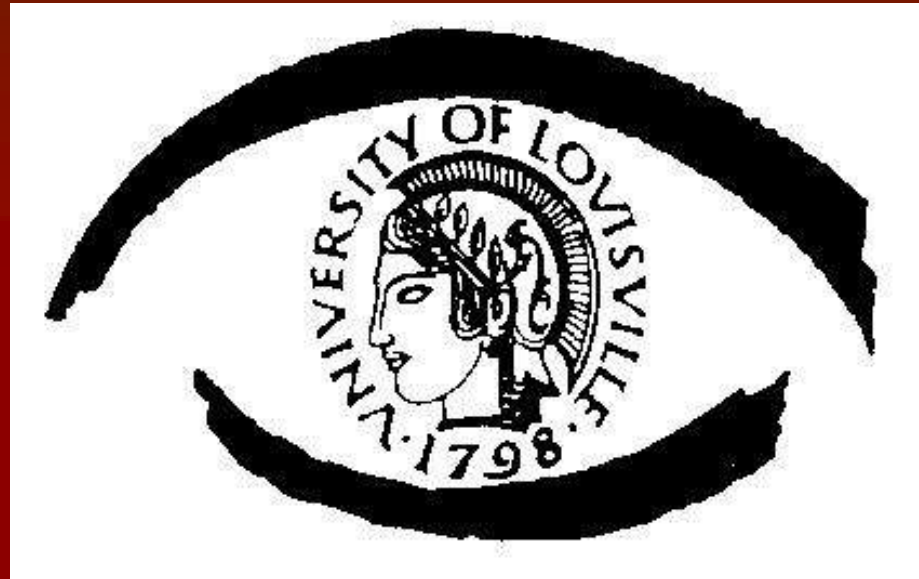


Clinical Rounds



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Patient Presentation

CC: Eye pain OU x 1 wk

HPI: 21yo HIV+ BF c/o sharp, stabbing pain OU x 1wk.
Denies VA changes. (+) watery discharge (+) photophobia

POH: None

Ocular Meds: None

PMH: HIV+ (diagnosed at birth), genital herpes
CD4+ 17

Systemic Meds: Acyclovir, HAART

ROS: (+) Odynophagia (+) Dysphagia
(+) Productive cough (-) Fever (-) Rash

Initial Exam

VA $\left\{ \begin{array}{l} 20/20 \\ 20/20 \end{array} \right.$

P $\left\{ \begin{array}{l} 3 \rightarrow 2 \\ 3 \rightarrow 2 \end{array} \right.$
 (-) APD

T_p $\left\{ \begin{array}{l} 14 \\ 15 \end{array} \right.$

EOM $\left\{ \begin{array}{l} \\ \text{full OU} \end{array} \right.$

PLE:

OD

OS

Ext

WNL OU

C/S

+temporal injection

+nasal injection

+small non-mobile nodule

+nodules x 2

(-) blanch with epinephrine

K

clear OU

AC

formed OU

I/L

round OU

DFE: WNL OU

Photos



Color photographs OU demonstrating sectoral conjunctival erythema (temporally OD and nasally OS) and raised nodules OU.

Impression/Differential Diagnosis

- 21yo HIV+ BF with bilateral nodular conjunctivitis
- DDx:
 - Immune
 - Nodular anterior scleritis
 - Rheumatoid arthritis, Wegener's, SLE, Sarcoidosis
 - Syphilis, Herpes, HIV
 - Conjunctival microvasculopathy
 - Infectious
 - CMV
 - HSV
 - HHV-8
 - Microsporidia
 - Cryptococcus
 - Molluscum
 - Tumor
 - Kaposi's sarcoma
 - Lymphoma

Plan

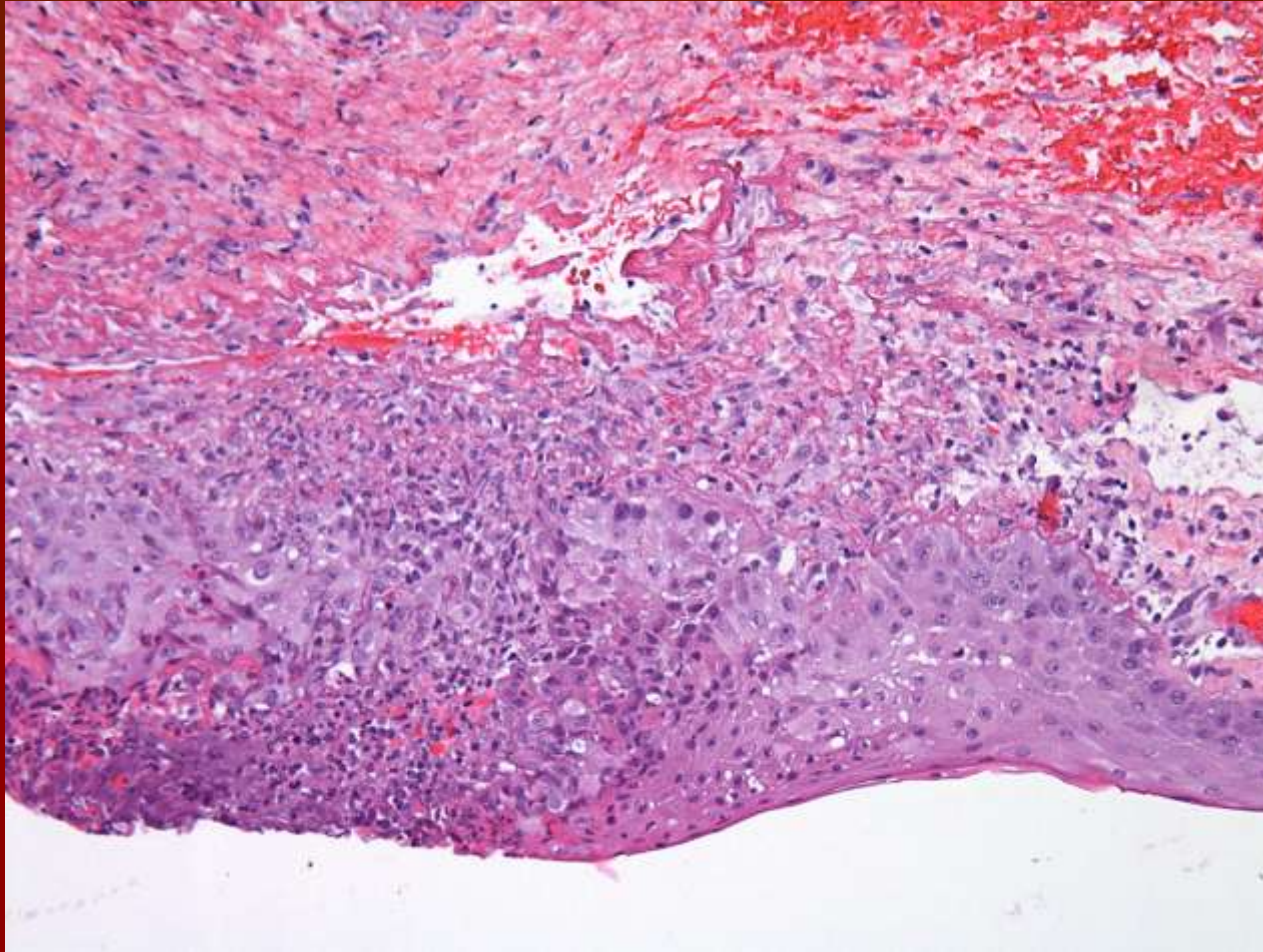
- Labs
- NSAIDs
- Conjunctival Biopsy
- Immunologic:
 - ACE: WNL
 - C3: mild elevation
 - C4: WNL
 - ANCA (-)
- Infectious:
 - RPR: NR
 - HSV CSF and cultures (-)
 - CMV CSF and cultures (-)
 - VZV culture (-)
 - Crypto CSF (-)
 - PPD (-)
 - AFB CSF and cultures (-)
 - Anaerobes (-)
 - Fungal elements (-)

Pathology



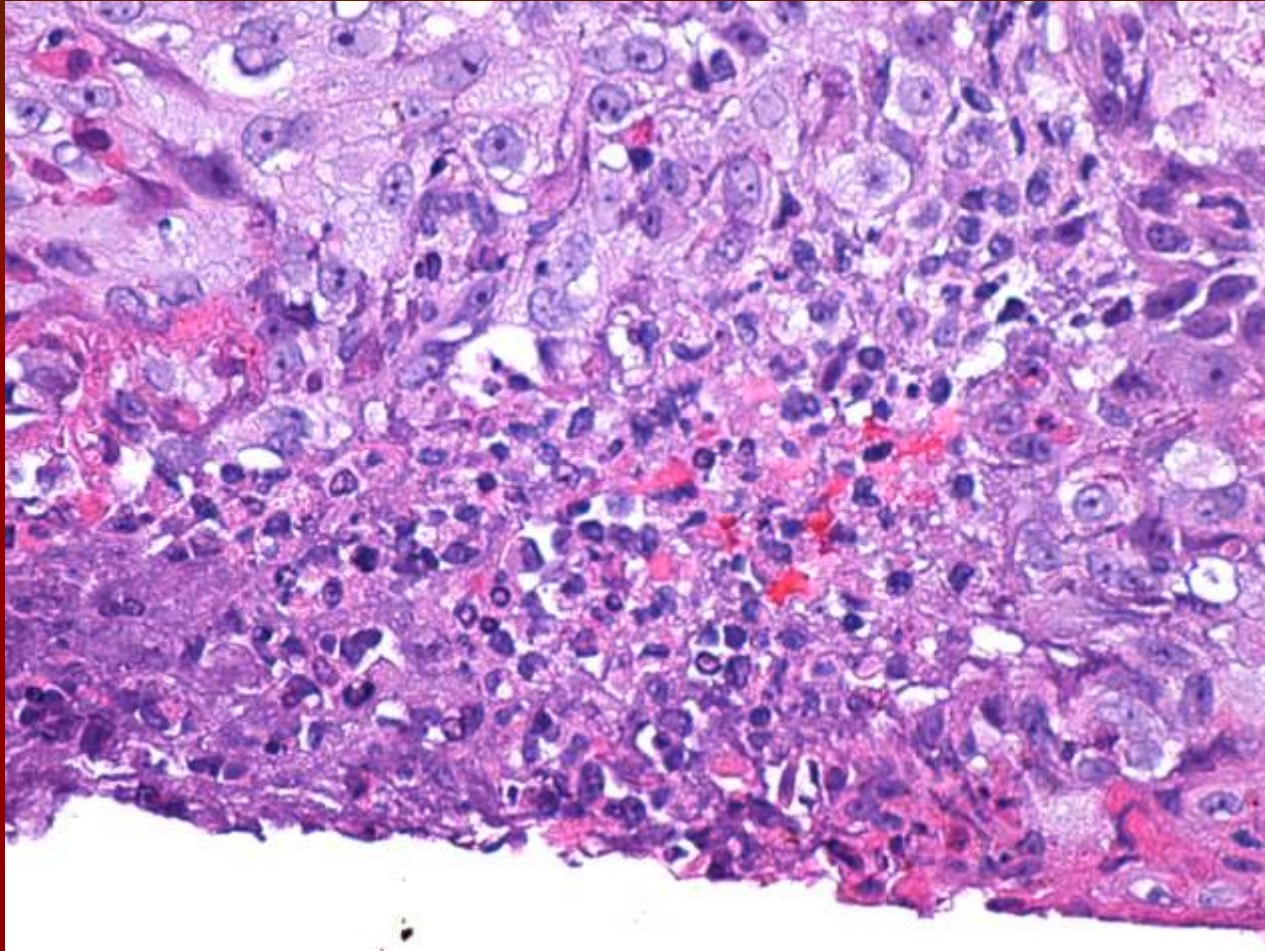
H&E stain (low power): Chronic active ulcerative conjunctivitis

Pathology



H&E stain (medium power) showing reactive epithelial cells, parakeratosis, fibroblasts and focal submucosal hemorrhage.

Pathology



H&E stain (highest power) showing focal acute and chronic superficial inflammation. No intranuclear inclusions are recognized.

Various histochemical stains were obtained as well as immunostains for CMV, HSV, and HHV-8. All are negative to date.

Nodular Anterior Scleritis

- 2nd most common form of anterior scleritis
- Scleritis is associated with systemic disease in 50% of patients:
 - (Johns Hopkins, 2000 – 97 patients with scleritis were reviewed)
 - Rheumatic disease was present in 39%:
 - Rheumatoid arthritis (18%), vasculitis (7%), inflammatory bowel disease (5%), systemic lupus erythematosus (4%), and relapsing polychondritis (3%)
 - Infectious disease was present in 8%.
 - Herpes zoster ophthalmicus (5%), herpes simplex (2%), human immunodeficiency virus (2%), and Lyme disease (1%).

HIV and the Eye

- Among HIV-infected individuals, 70-80% will be treated for eye disorders
- CD4+ count
 - <500 cells/mm³ → Kaposi's sarcoma, TB, lymphoma
 - <250 cells/mm³ → pneumocystosis, toxoplasmosis
 - <100 cells/mm³ → retinal or conjunctival microvasculopathy, CMV retinitis, VZV retinitis, mycobacterium avium complex infection, cryptococcosis, microsporidiosis,

Adnexal Manifestations

- Conjunctival microvasculopathy (70-80%)
 - Segmental vascular dilation and narrowing, microaneurysm formation, and appearance of comma-shaped vascular fragments
 - Pathophysiology → Increased plasma viscosity and immune-complex deposition are believed to be involved. Direct infection of the conjunctival vascular endothelium by HIV has been suggested as a possible cause.
- Herpes Zoster Ophthalmicus (5-15%)
- Kaposi sarcoma/HHV-8 (25%)
- Molluscum contagiosum (5%)
- Nodular anterior scleritis

Conjunctival Lesions in HIV+ Patients



Cryptococcal conjunctivitis

*Waddell, et al. 2000



Kaposi sarcoma of the conjunctiva

* <http://emedicine.medscape.com/article/1197815-overview>



Conjunctival lymphoma

*http://www.djo.harvard.edu/site.php?url=/physicians/kr/762&page=KR_AN

Anterior Segment Manifestations

- Keratoconjunctivitis sicca (10-20%)
- Infectious keratitis
 - VZV
 - HSV
 - Microsporidia
 - Candida
 - Aspergillus
 - Fusarium
- Iridocyclitis
 - Often associated with CMV or VZV retinitis

Posterior Segment Manifestations

- HIV Retinopathy
- HIV-related retinochoroiditis
 - VZV
 - HSV
 - CMV
 - Treponema pallidum, Mycobacterium tuberculosis
 - Cryptococcus, Histoplasma capsulatum, Candida

Orbit Manifestations

- Orbital lymphoma
- Orbital cellulitis

HIV Retinopathy and the HAART Era

■ Pre-HAART

- CMV Retinitis was the most common HIV-associated retinopathy (20-40% of patients)
- Median time to progression: 47-109 days
- Mean survival after diagnosis: 6-10 months
- Treatment: Indefinite maintenance therapy

■ Post-HAART

- Incidence of CMV Retinitis has declined by 80%
- Survival after diagnosis has increased to >1yr
- Safe discontinuation of maintenance therapy has been allowed

References

1. Akduman L, Pepose JS. Anterior segment manifestations of acquired immunodeficiency syndrome. *Semin Ophthalmol*. Jun 1995;10(2):111-8
2. Copeland R, Phillpotts BA. 2009. Ocular manifestations of HIV. eMedicine. Last accessed August 31, 2010.
3. Waddell KM, Lucas SB, Downing RG. 2000. Conjunctival cryptococcosis in acquired immunodeficiency syndrome. *Arch of Ophthalmol*; 118(10):1452-1453.
4. Digital Journal of Ophthalmology.
http://www.djo.harvard.edu/site.php?url=/physicians/kr/762&page=KR_AN,
Last accessed August 31, 2010.
5. Freudenthal J, Yuhan KR, You TT. 2010. Kaposi sarcoma. eMedicine.
<http://emedicine.medscape.com/article/1197815-overview>. Last accessed August 31, 2010.
6. Goldberg DE, et al. HIV-associated retinopathy in the HAART era. *Retina*. 2005 Jul-Aug;25(5):633-49; quiz 682-3.
7. Jabs DA, et al. Episcleritis and scleritis: clinical features and treatment results. *Am J Ophthalmol*. 2000 Oct;130(4):469-76.
8. Teich SA. Conjunctival vascular changes in AIDS and AIDS-related complex. *Am J Ophthalmol*. Mar 15 1987;103(3 Pt 1):332-3.

Thank You!