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VISION EXPO

1

Practical Approach to Uveitis Management

Jessilin Quint, OD, MBA, MS, FAAO

2

Statement of Financial Disclosures

- Alcon-Consultant, Speaker Bureau
- Allergan-Consultant, Speaker Bureau
- Dompe-Consultant
- Tarsus-Consultant
- Ocuphire-Consultant
- Oyster Point Pharma-Consultant
- Eyenovia-Consultant

3

Case Study

- 23yo Caucasian Female
- **CC**: painful left eye
- HPI: started 3 days ago

Sudden, onset with no improvement with ATs
(+)photophobia
(+)mild blurry vision

4

History

- **Medical history**: unremarkable
- **Medications**: birth control
- **Ocular history**: unremarkable
  LEE 2 years ago
- Social history: (-)EtOH, nonsmoker

5

Entrance Testing

- **BCVA**: 20/20 OD; 20/25 OS
- **Pupils**: PERRLA, (-)APD
- **Confrontational VF**: full
- **EOMs**: Full & Smooth OU
- **IOP**: 12mmHG OD, 13mmHG OS

6

Slit Lamp Findings

	OD	OS
Cornea	WNL	WNL
A/C	**Quiet**	**1+ cells**
Iris	Blue, (–)TIDs, (–)synechiae	Blue, (–)TIDs, (–)synechiae
Lens	Clear	Clear

7

Posterior Pole Findings

	OD	OS
Vitreous	Quiet–no cells	Quiet–no cells
Optic nerve	Pink, healthy rim 0.3/0.3 C/D ratio	Pink, healthy rim 0.3/0.3 C/D ratio
Macula	Flat & clear	Flat & clear
Retina	No breaks/tears	No breaks/tears

8

What's your diagnosis?

Acute, anterior, non-granulomatous uveitis OS

9

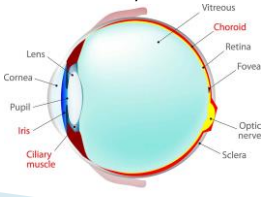
Uveitis

- Common cause of red & painful eye
- 10–20% of blindness in US
- 3rd leading cause of blindness in developed countries
- Important associations with systemic disease

10

What is Uveitis?

- Inflammation of the Uveal Tract
- Highly vascularized tissues more commonly involved with inflammation
- Uveal Tract:
  - Iris
  - Ciliary Body
  - Choroid



11

Inflammation Basics

- "Inflammation" (Latin, *inflammatio*, to set on fire)
- Inflammatory response Events:
  - (1) vascular changes: blood flow increases and fluid and plasma proteins leak into the inflamed tissue
  - (2) cellular infiltration: leukocytes adhere to vascular endothelium and migrate through the endothelial layer to gain access to surrounding tissue
  - (3) chemotaxis: leukocytes follow a chemical gradient to the site of insult and unleash potent killing mechanisms.

12

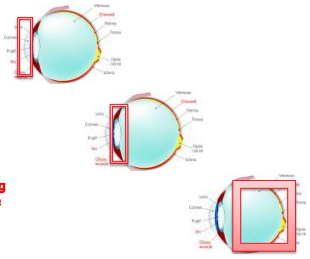
Uveitis Classification

1. Anatomical=What structures are involved?
2. Time-Course of Disease =When did it occur?
3. Pathophysiology=What type of inflammation?
4. Laterality=Which eye?

13

Anatomical Classification

- Anterior Uveitis (AU)
- Intermediate Uveitis (IU)
- Posterior Uveitis (PU)
- Panuveitis



Classified according to what part of the eye is affected the most

14

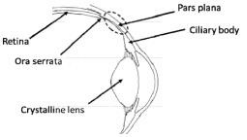
Anterior Uveitis

- Inflammation of anterior segment (iris & anterior ciliary body)
- Inflammation from breakdown of blood-aqueous barrier
- Most common form (50-60% of all cases)
- 30-50% have underlying systemic etiology

15

Intermediate Uveitis

- Inflammation of the pars plana, vitreous, and peripheral retina
- "pars planitis" =subset category & only used if there is an absence of associated infection (i.e. idiopathic)
- Etiology
  - 70% Idiopathic
  - 22% Sarcoidosis
  - 8% Multiple Sclerosis
  - 1% Lyme Disease



16

Posterior Uveitis

- Inflammation of the posterior pole (retina, choroid, optic nerve)
- Etiology
  - 25% toxoplasmosis
  - 13% Idiopathic
  - 12% CMV
  - 8% Sarcoidosis
  - 8% SLE

17

Panuveitis

- Inflammation of anterior chamber, vitreous, retina, and/or choroid
- Etiology
  - 22% Idiopathic
  - 14% Sarcoidosis
  - 12% Bechet's
  - 5% Syphilis
  - 2% TB

18

Clinical Classification

- Acute: sudden onset <3mo
- Chronic: >3months
  - Can be a "white eye"
- Recurrent: repeated episodes separated by period of inactivity without treatment for 3+mo

19

Pathophysiology Classification

- Non-granulomatous
- Granulomatous

20

Non-granulomatous

- Inflammation causes protein & WBC to enter aqueous humor
- Inflammatory cells: lymphocytes, plasma cells, macrophages
- More common in non-infectious etiologies
- Can be acute or chronic
- Predilection for iris & ciliary body

21

Granulomatous

- Inflammatory cells: macrophages, epithelial cells, multi-nuclear giant cells
- Usually infectious, toxic, autoimmune, or neoplastic etiologies
- Predilection for posterior segment
- Mutton fat KPs, Koeppe/Busacca nodules, Vitreous precipitates

22

Helpful Documentation

- Acute non-granulomatous anterior bilateral uveitis
- Chronic non-granulomatous anterior uveitis OD
- Acute, granulomatous bilateral panuveitis

23

Etiology Detective!

Key to determining the cause of uveitis:

- 1) Accurate & thorough history
- 2) Perform a thorough ophthalmic exam

24

What is the Etiology?

-Lab tests are NOT a substitute for history & exam

-However lab tests are crucial for proper management

History first → then laboratory testing/tissue biopsy may confirm etiology spectrum

25

Exam=History

- Past Medical History
  - Medication history
  - History of autoimmune disorders
  - Prior ocular surgery or trauma
- Complete Review of Systems
- Family History
- Social History: smoking, travel, occupation, drug use

26

Exam

- Visual Acuity
- Pupillary function
- Motility, confrontation fields
- IOP
- Slit Lamp
- Dilated Fundus Exam

Goal=Determine infectious vs non-infectious etiology

27

Common Symptoms

- Eye pain or ache
- Photophobia
- H/x of recurrent red eyes
- Recent ocular trauma
- Injection
- Lacrimation
- Decreased vision
- Floaters

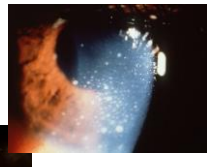
28

Anterior Segment

- Conjunctiva
  - circumcorneal injection
  - conjunctival nodules/granulomas
- Cornea
  - Epithelium dendrites
  - Stroma edema
  - Endothelium: keratic precipitates (KPs)
    - Size: small, large, non-granulomatous, granulomatous
    - Color: white, pigmented
    - Distribution: Arlt's triangle, diffuse

29

New KPs=white with smooth borders



Chronic KPs=pigmented with irregular borders

30

Anterior Segment

- Anterior Chamber
  - Depth-Shallow? Angle Closure?
  - Cells-Hypopyon? Hyphema? Pigmented cells?
  - Flare
  - Structural Changes-rubeosis?

31

Anterior Segment

- Anterior Chamber: cells & flare
- Grading Cells (SUN)

Grade	Cells In Field
0	<1
0.5+	1-5
1+	6-15
2+	16-25
3+	26-50
4+	>50

Field Size 1mm X 1mm slit beam

32

Anterior Segment

- Grading Flare (SUN)

Grade	Description
0	None
1+	Faint
2+	Moderate (iris & lens details clear)
3+	Marked (iris & lens details hazy)
4+	Intense (fibrin or plastic aqueous)

- Indicative of chronic inflammation
- Flare possibly predictive of adverse vision impairment (Holland 2007)

33

Anterior Segment

- Iris
  - Miosis
  - Atrophy
    - Sectoral-VZV/HSV
  - Color-heterochromia?
    - Look before dilated
  - Contour

34

Anterior Segment

- Nodules
  - Koeppe nodule=pupillary margin
    - Both granulomatous & non-granulomatous
  - Busacca nodules=on surface
    - Granulomatous
  - Nodules resolved when inflammation resolves
- Synechia
  - PAS (Peripheral Anterior Synechia)=irido-corneal adhesion
  - PS (Posterior Synechia)=iris-lens adhesion
  - Document location (quadrant/clock hour)

35

Intraocular Pressure

- Variable
- Usually low in acute phase b/c of hypotony of CB
- Usually Elevated in chronic phase b/c of TM saturation with inflammatory material
- Herpetic Etiology: trabeculitis affects outflow→ elevated IOP

36

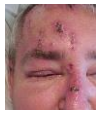
Posterior Pole Findings

- Vitreous=cells vs. spillover
- Macula-Atrophy? CME? Thinning?
- Vessels-sheathing? Vascular occlusion?
- Retina-whitening? Edema? Inflammation?
- Choroid-old or active scars?
- Optic nerve- edema? NVD?
- Peripheral -RD? neovascularization? Exudates?

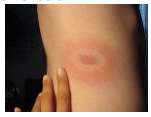
37

Non-Ocular Clinical Clues

- Cutaneous
  - Vesicular or dermatomal rash? HSV/VZV



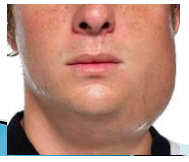
  - Erythema chronicum migrans? Lyme borreliosis
  - Psoriasis



38

Non-Ocular Clinical Clues

- Glandular Inflammation=Sarcoidosis?
  - Dacryoadenitis
  - Parotitis
    - Heerfordt's Syndrome



39

Laterality

- Unilateral Cases: HSV, VZV, CMV, Toxos
  - IOP elevation (Herpetic or toxoplasmosis)
  - Sectoral iris atrophy-VZV, HSV
  - Corneal scarring/edema-VZV, HSV
- Not always helpful
  - HLAB27 & scleritis often unilateral

40

Common Complications

- Cataracts: from chronic inflammation or use of corticosteroids
  - Inflammation causes breakdown of protein in the crystalline lens
- Band Keratopathy
  - Inflammation causes alkalosis that favors precipitation of calcium & phosphate
- Glaucoma
  - Inflammation can cause pigment & WBC to clog the TM
- Cystoid Macular Edema
  - Inflammation causes breakdown of blood-retinal barrier → increased vascular permeability

41

Suspect Systemic Disease if…

- Mutton Fat KPs
- Chronic & Recurrent
- Bilateral or Alternating
- Unresponsive to treatment

42

Uveitis Etiology

- Traumatic – will often resolve on own
- Idiopathic – most common
- Non-Infectious="auto-immune"
- Infectious

43

Non-Infectious Etiology

- Seronegative spondyloarthropathies = 50% cases
- Sarcoidosis
- Systemic Lupus Erythematous
- Juvenile Idiopathic Arthritis
- Behcet's disease

44

Seronegative spondyloarthropathies

- Family of rheumatologic disorders (back pain, uveitis, GI symptoms, rashes)
- Ankylosing spondylitis (AS)
- Psoriatic arthritis (PsA)
- Inflammatory bowel disease (IBD) associated arthritis

45

Sarcoidosis

- Multisystem disease of unknown origin
- Predominantly affects the lungs
- 50% of cases have ocular involvement
- Non-caseating granulomas composed of epitheloid & giant cells → secrete ACE

46

Juvenile Idiopathic Arthritis

- Accounts for 20-40% of pediatric uveitis patients
- Many different subcategories
- Often arthritis manifests before uveitis is detected

47

Systemic Lupus Erythematous

- Multi-system autoimmune disease
- Normal immune systems protect against pathogens (virus/bacteria), but ANA attacks cell nuclei triggering inflammation
- ANA levels elevated in 97% of SLE patients
- Can cause anterior uveitis

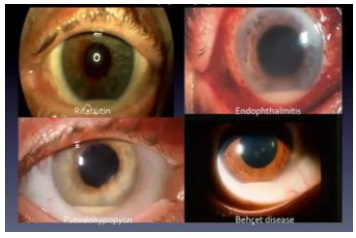
48

Behcet's Disease

- Triad
  - Oral ulcers
  - Genital ulcers
  - Ocular inflammation
- Hypopyon common finding

49

Hypopyon



50

Infectious Etiology

- Bacterial
  - Syphilis, Lyme, Tuberculosis, Endophthalmitis
- Viral
  - Herpes Simplex (HSV), Varicella Zoster (VSV), Cytomegalovirus (CMV)
- Fungal
  - Candida, Aspergillus, Histoplasmosis
- Protozoal
  - Toxoplasmosis
- Helminthic
  - Toxocariasis

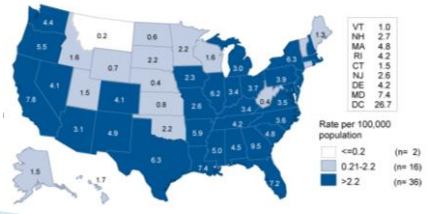
51

Syphilis

- **Systemic disease**: *Treponema pallidum*
  - Incubation period 2-4 wks
- **Eye**: "Great Imitator"
- **Epidemiology** (from CDC):
  - 46,042 new USA cases since 2011
  - 11.1% increase annually

52

1^0 & 2^0 Syphilis—CDC Rates by State, United States, 2012
Remains major health problem in South & Urban areas of US



http://www.cdc.gov/std/stats12/maps.htm

53

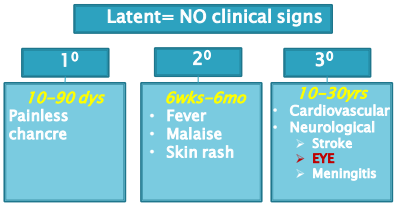
Syphilis

Transmission:
- -Congenital or Acquired
- -Direct contact with 1^0 or 2^0 lesions

Risk factors:
- -High-risk sexual activities
- -Coexisting HIV infection
- -IV drug use

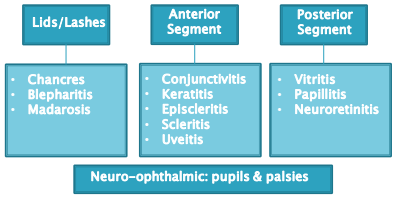
54

Acquired Syphilis Stages:



55

Ocular Manifestations:



56

Syphilitic Uveitis

- **Neurosyphilis**
- Bilateral or Unilateral
- Non-granulomatous or Granulomatous
- Anterior, posterior, or both
  - Posterior=vitritis, retinitis, chorioretinitis
  - Posterior=55.2% cases
- HIV co-infection (60%)

57

Neurosyphilis Tx (2010 CDC Guidelines)

Ocular disease = Neurosyphilis

1. Aqueous PCN G 18-24 million units/day IV x 10-14 days
   - Alt: Procaine PCN 2.4 million units/day IM x 10-14 days PLUS PO Probenecid 500 mg QID x 10-14 days
2. CSF examination & HIV testing
3. Repeat LP Q6mo X 2 yrs

58

Lyme

- multisystem infection caused by the spirochete bacterium *Borrelia burgdorferi* -typically transmitted through the blacklegged tick
- Deer tick = transmit Lyme
  - Ixodes scapularis=NE, Mid-Atlantic, north-central
  - Ixodes pacificus=pacific coast
- Ticks not known to transmit Lyme disease:
  - Lone star ticks (*Amblyomma americanum*)
  - American dog tick (*Dermacentor variabilis*)
  - Rocky Mountain wood tick (*Dermacentor andersoni*)
  - Brown dog tick (*Rhipicephalus sanguineus)*

59

Lyme

- On the rise: 30,000/yr reported cases to CDC
  - True # is like 10X this
- Illness consistent with Lyme reported in Europe as early as 1883
- Most-common vector-borne disease in both Europe & North America
- 22 variants of tick bites

60

Lyme & the Eye

- Keratitis, Follicular conjunctivitis, scleritis, uveitis, CN palsies, optic neuritis, papilledema
- Non-ocular symptoms can vary
- 2017 Retrospective study: no response to any type of corticosteroid (Ab only)

61

Tuberculosis

- caused by Mycobacterium tuberculosis
- Can occur from active infection or secondarily as a result of immune reaction to the mycobacterium
- Dx of intraocular TB is presumptive (after excluding other possible uveitis entities)
- Beware of TB Treatment ocular side effects
- Ethambutol: optic neuritis, color vision deficiencies, central scotomas, & retinal edema

62

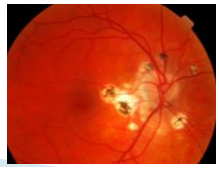
Cytomegalovirus (CMV)

- Double stranded DNA virus in Herpesviridae family
- Associated with HIV/AIDS (immunocompromised patients)
- Transmitted by saliva, breast milk, sexual contact, organ transplantation
- Anterior Uveitis, Retinitis, Corneal Endotheliitis
- MOA theories: reactivation is primary cause of inflammation -or- reactivation occurs as secondary consequence of macrophage/dendritic cell activation

63

Presumed ocular histoplasmosis syndrome (POHS)

- Secondary infection with the yeast form of *Histoplasma capsulatum*
- Triad:
  - Atrophic chorioretinal scars
  - Peripapillary atrophy (PPA)
  - Absence of vitritis



64

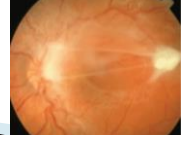
Toxoplaxmosis

- *Toxoplasma gondii*: single-cell protozoan parasite
- Hosts: **cats**, birds, reptiles, mammals
- Congenital or acquired
- Transmitted via direct contact with
  - Direct contact with contaminated food, soil, sand or cat litter
  - Consumption of raw or undercooked meat
- White, chorioretinal, inflammatory lesion with an overlying vitritis

65

Toxocariasis

- Rare infection caused by roundworms (*toxocara canis* or *toxocara cati)*
- *Unilateral 90% of the time*
- Vitritis, leukocoria, endophthalmitis, central posterior or peripheral granuloma
- Ultrasound biomicroscopy (UBM)=detection of granulomas



66

Fuch's Heterochromic Iridocyclitis

- Chronic, low grade unilateral non-granulomatous anterior uveitis
- 2-3% of all uveitis cases
- Asymptomatic
- KPs have stellate appearance
- Iris atrophy: decrease stromal melanocytes
- Heterochromia ("moth eaten appearance") lighter iris → involved eye
  - Reversed Heterochromia → dark iris is involved eye

67

Fuch's Heterochromic Iridocyclitis

- Unclear etiology: Viral? Associated diseases?
- To treat or not to treat
  - Few cases require therapy
- Beware of complications:
  - Cataract
  - Glaucoma
  - Complications with cataract surgery (iris not dilated as well, acrylic vs silicone IOL)

68

When to order Laboratory Testing

- Recurrent or Chronic
- Bilateral
- Posterior pole findings
- Unusual severity
- Poor response to treatment

69

Lab Tests for Uveitis

70

Complete Blood Count (CBC)

- Order with differential
- Full panel describing blood makeup (erythrocyte, leukocyte, neutrophil, plasma count, etc)
- Evaluates general health status
- Viral, bacterial, leukemia
- Helps differentiate between noninfectious & infectious

71

Erythrocyte sedimentation rate (ESR)

- Nonspecific for inflammation
- Measures how quickly erythrocytes settle at bottom of test tube
- Protein is produced by liver & increases with inflammation; RBC settle at a faster rate in the presence of increased proteins
- Normal values: 0-13mm/hr males, 0-20mm/hr females
- >50mm/hr→giant cell/temporal arteritis

72

C-Reactive Protein

- Blood test marker for inflammation in body
- CRP produced in liver & sent into bloodstream in response to inflammation
- Normal <10 mg/L
- >10 mg/L →serious infection, trauma, chronic disease

73

Antinuclear antibody (ANA)

- Plasma cells produce antibodies directed against the body's tissues
- Positive values:
  - SLE
  - TB
  - Hepatitis
  - Lymphoma
  - Sjogren's
  - JRA
  - Scleroderma

74

Human Leukocyte Antigen (HLA-B27)

- Presence of this antigen is indicative of the patient being at risk for having an autoimmune disorder
- Ankylosing spondylitis
- Reiter's Syndrome/Reactive Arthritis
- Psoriatic Arthritis
- Inflammatory Bowel Disease Arthritis

**Beware of false positives

75

Angiotensin-Converting Enzyme (ACE)

- Enzyme produced from granulomatous cells
- Serum levels reflect total amount of granulomatous tissue in body
- Sarcoidosis=75% sensitivity, 95% specific
- False Positives: TB, Lymphoma, leprosy
- Biopsy required for dx of Sarcoidosis

76

VDRL, RPR, FTA-ABS

- Syphilis
- VDRL or RPR=Initial screening
- FTA-ABS=confirm the diagnosis

77

Tuberculosis

- Purified protein derivative (PPD)
- Quantiferon Gold
- Chest X-ray

78

Rheumatoid Factor (RF)

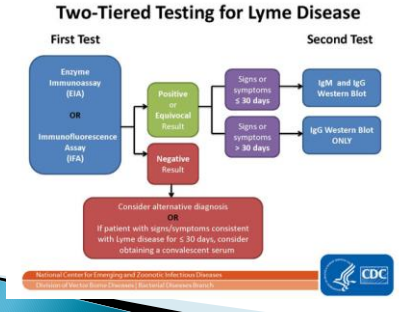
- Helps differentiate RA from other chronic conditions
- Can be (+) in Sjögren's syndrome, SLE, syphilis, sarcoidosis, & liver disease

79

Enzyme-linked immunosorbent assay (ELIZA)

- Detects antibodies in blood
- Helpful in identifying toxoplasmosis, toxocariasis, or Lyme

80



81

Always Rule Out

- Tuberculosis
- Syphilis
- Sarcoidosis

82

Lab Form

83

Treatment Goals

- Preserve Vision
- Reduce Pain
- Eliminate inflammation
- Identify Source
- Prevent Synechia
- Manage IOP

84

Treatment=Topical Steroids

- Concentration
  - 0.1% dexamethasone vs 1% prednisolone acetate
- Corneal penetration
  - Prednisolone greater than dexamethasone
  - 0.05% difluprednate = synthetic fluorinated pred derivative
    - Greater glucocorticosteroid receptor binding
    - Greater corneal penetration (addition of acetate ester at C-21)

85

Treatment=Other Steroids

- Medrol Dosepak =oral methylprednisone
- Subconjunctival corticosteroid
- Dextenza plug=sustained release dexamethasone 0.4mg, Ocular Therapeutix (only approved for postoperative pain & inflammation so may not work alone for primary uveitis)

86

Treatment

- Be aggressive
- Dosing
  - QID to q1hr
- Taper
  - Maintain steroid qd for additional 5 days after cells/flare resolve as it can sometimes take 3-5 days after inflammation for blood-aqueous barrier to restore
- Watch IOP spike

87

Treatment

- Cycloplegics/Mydriatics
  - Improves comfort
  - Reduces leakage from Iris & CB
  - Prevents & breaks posterior synechiae
  - Avoid atropine if possible → slow acting can cause synechia lock
- Glaucoma Medication
  - Avoid prostaglandin
- Oral Steroids, steroid injections, immunosuppressive therapy, implant devices

88

Appropriate Follow-up

- Mild: 4-7days
- Moderate: 2-4 days
- Severe: 1-2 days
- Resolved: q1-6mo

89

When to Refer

- Infectious →STAT
- Intermediate, Posterior, Panuveitis
- Non-infectious w/systemic involvement → work with PCP, rheumatology, or appropriate provider

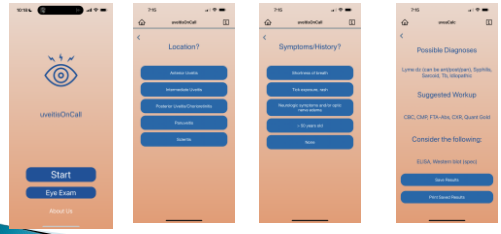
90

Collaborative Care Steps

- Report to the State/CDC
- Letter to PCP/appropriate specialist
- Make patient aware they may need specialist depending on clinical outcome

91

New Technology: App called uveitisOnCall



92

Case 1 Flashback-Treatment

- 23yo acute, anterior, non-granulomatous uveitis
- 1% pred acetate q2hr OS
- 1 wk Follow-up Appointment
  - Complete Resolution
  - IOP stable
  - Tapered to BID X 3 days then d/c
  - No flare-up since

93

Case Study 2

- 25 yo AA Male
- **CC**: " blurry vision with black spots"
- **HPI**:
  - Sudden, painless decrease in vision OS
  - Onset: 4 days, upon awakening
  - (+) flashes of light and floaters X 4 days OS

94

History

- **Medical history**: (+) epilepsy, (-)STDs, (-)inflammatory conditions
- **Medications**:
  - Visine BID OU
  - 100 mg phenytoin sodium TID PO
- **Ocular history**: Blind OD (2009 eye trauma)
- **Social history**: (-)smoking, EtOH, drug use

95

Entrance Testing

- **BCVA**: NLP OD; 20/200 NIPH OS
- **Pupils**: fixed, miotic OD; round, minimal reactivity OS
- **Confrontational VF**: I & T constriction OS
- **EOMs**: Full & Smooth OU

96

Slit Lamp Findings

	OD	OS
Cornea	WNL	Edema 3+ guttata **inferior KPs**
A/C	**Quiet** irido-corneal touch	**4+ cells/3+ flare** (–)hypopyon
Iris	Atrophy	I, IT, ST synechiae
Lens	Displaced w/PS	4+ pigment AC
Vitreous	No view	(+)cells-hazy view of post pole

97

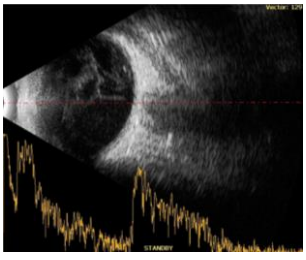
Clinical Exam

- **IOP**: 7 OD/10 OS (mmHG)
- **Gonioscopy**: PAS OS
- **DFE:**
  - OD: no view (dense cataract)
  - OS: photo

98

99

B-Scan: OD



100

Differential diagnosis

- Sympathetic ophthalmia
- Sarcoidosis
- Syphilis
- Tuberculosis
- HIV/AIDS

101

Case Management

- 1% PA Q1hr & 1% Atropine BID OS
- Lab Work-up
- Uveitis specialist referral

102

Diagnostic Testing

- **Labs**:
  - FTA-ABS (inconclusive)
  - (+)RPR, TP-PA
  - (-) HIV, HSVI IgG, HSV II IgG, HSV IgM, Lyme, EBV, WNV, Quantiferon
  - Unremarkable CSF & CXR

103

Diagnosis

Syphilitic Panuveitis

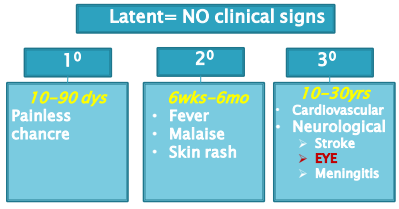
104

Treatment

- Hospitalized
- 60mg prednisone PO QD
- 24 million units/day IV aqueous PCN X 10 days

105

Acquired Syphilis Stages:



106

Neurosyphilis Tx (2010 CDC Guidelines)

Ocular disease = Neurosyphilis

1. Aqueous PCN G 18-24 million units/day IV x 10-14 days
   - Alt: Procaine PCN 2.4 million units/day IM x 10-14 days PLUS PO Probenecid 500 mg QID x 10-14 days
2. CSF examination & HIV testing
3. Repeat LP Q6mo X 2 yrs

107

Post-Ab Treatment

- VA 20/100, PH 20/50 OS
- Essential Resolution of Uveitis & Vitritis
- F/U on going

108

Case Study #3

- 53yo Caucasian Female
- **CC**: irritated left eye
- HPI: started a month ago, previous provider treating for dry eye but sxs not improving
- (+)watering, photophobia, FB sensation

109

History

- **Medical history:** joint pain, no diagnosis of arthritis
- **Medications:** none
- **Ocular history:** glasses, dry eye

110

Entrance Testing

- **BCVA:** 20/30 OD; 20/30 OS
- **Pupils:** PERRLA, (–)APD
- **Confrontational VF:** full
- **EOMs:** Full & Smooth OU
- **IOP:** 14mmHG OD, 13mmHG OS

111

Slit Lamp Findings

	OD	OS
Conj	injection	injection
Cornea	Fine, white inferior KPs	Fine, white inferior KPs
A/C	**1+ cells**	**2+ cells**
Iris	(–)TIDs, (–)synechiae	(–)TIDs, (–)synechiae
Lens	Clear	Pigment on AC

112

Posterior Pole Findings

	OD	OS
Vitreous	Quiet-no cells	Quiet-no cells
Optic nerve	Pink, healthy rim 0.3/0.3 C/D ratio	Pink, healthy rim 0.3/0.3 C/D ratio
Macula	Flat & clear	Flat & clear
Retina	No breaks/tears	No breaks/tears

113

Diagnosis

Bilateral acute anterior non-granulomatous uveitis
-no posterior pole involvement
-remnants of posterior synechiae OS only

114

Treatment

- 0.05% difluprednate qid OU
- Due to bilateral presentation: CBC with diff, ANA, HLA-B27, PPD, CRP, VDRL/FTA-ABS, RF, and ACE analysis
- RTC 1 wk for f/u

115

Follow-up

- 1 week=inflammation still present, CPM
- 2 week=resolved, taper started
  - Lab work unremarkable
- 4 week=resolved, d/c topical steroid

116

4mo later

- Decreased vision OS, pain & irritation OU
- No changes to medical history
- VA 20/30 OD, 20/100 OS
- IOP 13mmHG OD, 15mmHG OS

117

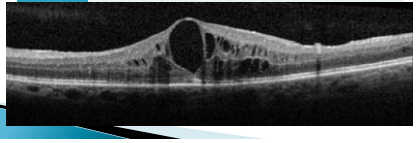
Slit Lamp Findings

	OD	OS
Conj	injection	injection
Cornea	Fine, white inferior KPs	Fine, white inferior KPs
A/C	**1+ cells**	**1+ cells**
Iris	(-)TIDs, (-)synechiae	(-)TIDs, (-)synechiae
Lens	Clear	Pigment on AC

118

Posterior Pole Findings

	OD	OS
Vitreous	Quiet-no cells	Quiet-no cells
Optic nerve	Pink, healthy rim 0.3/0.3 C/D ratio	Pink, healthy rim 0.3/0.3 C/D ratio



119

Treatment

- Start 0.05% difluprednate qid OU, 0.5% ketorolac TID OS
- Referral to uveitis specialist
- 2 wks later:
  - resolved CME
  - resolved inflammation →steroid taper
  - IOP spike → Combigan (Rx'ed uveitis specialist)

120

2 years later

- Frequent recurrent uveitis flare-ups
- IOP controlled
- Repeated Lab work: still negative

What now?

121

Treating Idiopathic Etiology

- Still treat the current inflammation
- Chronic inflammation can damage structures
- Lab work

122

Uveitis Clinical Pearls

- Be a detective & find the cause
- Be aggressive when initiating topical steroid treatment
- Don't taper too soon
- Optometrists play a key role

123

Questions?

124

Thank you!

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125

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126