Anterior Uveitis: Beyond Wills
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No disclosures

Uveitis: Review
• Inflammatory process affecting the uvea
• Incidence of 17-50 /100,000 population
• Can be simply divided into
  – Anterior Uveitis
  – Intermediate Uveitis
  – Posterior Uveitis
  – Pan Uveitis
If not: Just a bunch of white dots

If you know what you’re looking for:
Looking for a uveitis diagnosis is like looking for a constellation

So how do we get to this:
- Idiopathic
- HLA-B27
- Sarcoidosis
- Tubular Interstitial Nephritis and Uveitis
- Juvenile Idiopathic Arthritis
- Behcet’s Disease
- VKH Syndrome
- Lyme Disease
- HSV
- Multiple Sclerosis
- VZV
- Toxoplasmosis
- Syphilis
- Leprosy
- Bartonella
- Tuberculosis
- CMV
- Masquerade Syndromes
- Rubella
- Sympathetic Ophthalmia
- …and many, many more

Anterior Uveitis: Beyond Wills

- Goals:
  - Review existing information on different etiologies of uveitis
  - **Try to establish the most useful diagnostic indicators among these group**
    - Improve your ability to recognize these sign posts and create a useful differential
    - Improve your application of existing information to uveitis cases
    - Improve your clinical recognition of uveitis etiologies
Uveitis differential

- Two useful general areas to look for when forming a uveitis differential:
  - Clinical Picture
  - Patient Setting
- The intersection of these two categories will have your diagnosis

Sign post #1: Clinical Picture

- The clinical picture is a description of the uveitis including:
  - easy to assess stuff:
    - Classifying the episode
  - More difficult to assess stuff:
    - Specific slit lamp findings

Classifying the episode:

- "Uveitis" is not a reasonable starting diagnosis
  - Bare minimum clinical picture description should contain descriptors of the Uveitis:
    - Onset: Acute vs Chronic
    - Location: Anterior vs Intermediate vs Posterior vs Pan
    - Laterality: Unilateral vs Bilateral
- "Unilateral Acute Anterior Uveitis" is a reasonable starting diagnosis
- Diagnostically important!
Subclasses of Uveitis and their symptoms

- **Subclass**
  - Acute Anterior
  - Chronic Anterior
  - Intermediate (vitritis)
  - Posterior Uveitis

- **Symptom**
  - Photophobia and pain
  - Minimal to no symptoms
  - No photophobia, floaters and blurred VA (from CME/ERM)
  - No photophobia, blurred VA (CME/ERM) possible floaters if overlying vitritis, photopsias, scotomas

Clinical Picture

- Anterior Chamber reaction
- Keratic Precipitates (Fine or Granulomatous)
- Anterior/Posterior Synechiae
- Iris Nodules
- Vitritis
- Snowbanking
- Retinitis
- Vasculitis
- Choroiditis

Clinical Picture

- Do all Uveitides have the potential to generate the same slit lamp findings?
- No! There are findings that may present with one etiology that will not present with another
  - Knowing which findings to look for can help with creating a differential
Sign-post #2: Patient Setting

- As a profession, we are not as good at this
  - Probably due to in-experience
  - Good news is some of the most important indicators are very apparent

Patient Setting and uveitis

- Patient Setting is an extremely important feature when constructing your differential
  - Age
  - Race
  - Gender
  - Review of Systems
    - Diagnosed conditions
    - Undiagnosed conditions

Value of the intersection of Patient Setting and Clinical Picture

- "If I take all comers with uveitis in my clinic, 1.3% have TINU. However, if I focus only on my patients who have a sudden onset bilateral anterior uveitis, 8% have TINU. If I focus on those who have a sudden onset bilateral anterior uveitis who are less than 20 years of age, more than 1/5 have TINU. It tends to be a female disease; therefore, among women with bilateral sudden onset anterior uveitis under 20 years of age, ¼ have TINU. That is basically true of almost any particular type of uveitis you want to talk about"
  - James Rosenbaum MD – rheumatologist and past chief of ophthalmology at OHSU
A word about labs

- Idiopathic
- HLA-B27
- Herpetic Infection
- Sarcoidosis
- Tubular Interstitial Nephritis and Uveitis
- Juvenile Idiopathic Arthritis
- Behcet’s Disease
- VKH Syndrome
- Lyme Disease
- HSV
- Multiple Sclerosis

- VZV
- Toxoplasmosis
- Vogt Koyanagi Harada Syndrome
- Syphilis
- Leprosy
- Bartonella
- Tuberculosis
- CMV
- Masquerade Syndromes
- Rubella
- Sympathetic Ophthalmia

...and many, many more

Review: Potential Labs:

- CBC
- Erythrocyte Sedimentation Rate
- HLA blood typing (B27, DRB1, B51, A29)
- PPD skin test
- ACE testing
- Lysozyme
- Chest X-Ray
- AC tap and PCR
- Anti Nuclear Antibody
- Lyme Titers
- FTA-ABS/MHA-TP
- Toxo Titers (IgG, IgM)
- Urinalysis

Review: Potential Labs

- Is there utility in having a standard battery of labs to run on all uveitis patients?
- Many causes of uveitis can be ruled in or out given the presentation and setting of the disease
  - JIA vs HLA-B27
  - VKH vs Sympathetic Ophthalmia
- So why do we need labs?
Review: Potential Labs

• How do you feel about making things worse???

• Despite diagnostic clues, there remains significant overlap in pathologies

• Systemic issues require interdisciplinary approach

• But this doesn’t mean every patient needs every lab

Review of Etiologies

• A review of some of the common etiologies of iritis with important clinical picture and patient setting features highlighted

Non-granulomatous Disease

• Idiopathic
• HLA-B27
• JIA
• Behcet’s
• Herpetic
• Masquerade Syndromes
  – Intraocular foreign body, leukemia and lymphoma
What does HLA mean?

- Human Leukocyte Antigens (HLA) are genes of the Major Histocompatibility Complex (MHC).
- These genes are expressed on the cell membrane of certain cell population.
- They interact with the immune system.
- HLA-B27 is a class I MHC antigen (meaning it's expressed on every nucleated cell).

Exists in about 8% of Caucasian population.

- ~2% of African American population
  - Nearly non-existent in racially unmixed African population and native Aboriginals.
- 4.5% in Mexican Americans.
- Extremely common in some native North Americans.
- One of the strongest HLA-disease relative risks.
- Present in approximately 50% of Acute Anterior Uveitis cases in a western population.
- 70% of recurrent acute anterior uveitis cases.
• HLA-B27 is associated with many disease processes besides uveitis
  – Ankylosing Spondylitis
  – Reiter's syndrome (Reactive arthritis)
  – Psoriatic Arthritis
  – Inflammatory Bowel Disease
  • Erythema Nodosum
  • Aphthous Ulcers
• Patients with HLA-B27 + one of the systemic conditions have an ~ 25% lifetime risk of developing Anterior Uveitis

• How does HLA-B27 cause disease?
  – We don't really know
  – Some theories
    • Infective -> Reactive (Reiter's)
    • Self-Antigen Presenting by the HLA
    • Molecular Mimicry
    • HLA as the antigen

• Clinical Appearance and course
  – Unilateral (often alternates eyes)
  – Moderate to severe intensity
  – Non granulomatous (fine KP)
    • Mutton fat KP in 0-3% of cases compared to 17-47% of all other systemic causes of Anterior Uveitis
  – Fibrin in anterior chamber (25-50%)
  – Hypopyon (12-15%)
  – Vitreal spill over is possible, but anterior findings are primary
HLA- B27

• Clinical Appearance and Course
  – Each attack typically lasts ~6-8 weeks…expect a treatment to be necessary over this amount of time
  – Recurrences vary dramatically but mean recurrence is 12-25 months

HLA-B27

• Visually significant in the presence of
  – CME (6-15%)
  – Pupillary membranes
  – Cataract

HLA-B27 Clinical Pearls

• Patient Setting: Generally young or middle aged patients with possible link to associated systemic conditions
• Clinical Picture: Unilateral, (but often alternating)non-granulomatous moderate to severe intensity acute anterior uveitis
Juvenile Idiopathic Arthritis

Juvenile Idiopathic Arthritis (JIA)

• The Arthritis formerly known as Juvenile Rheumatoid
  – Heterogeneous group of poorly defined conditions
  – All idiopathic arthritides which begin prior to the patient's 16th birthday and last for at least 6 weeks
  – Forms may be:
    • Polyarticular, pauciarticular or systemic which may then be further defined as being associated with ANA or Rheumatoid factor

JIA

• Prevalence of JIA is 100/100,000
• Uveitis in JIA
  – occurs in 20-30% of the ANA positive subgroup
  – Is the most common extra-articular manifestation
• Most common cause of pediatric uveitis in Western world
Causes of childhood uveitis

<table>
<thead>
<tr>
<th>Causes of childhood uveitis</th>
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<tbody>
<tr>
<td>JIA: Lab testing</td>
</tr>
<tr>
<td>• Some phenotypes of JIA are seropositive some are not.</td>
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<tr>
<td>– Test for Rheumatoid factor and ANA</td>
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<td>– Again, ANA (+) JIA patients have the highest risk of uveitis</td>
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JIA and uveitis

• In almost all cases where uveitis develops, it follows the arthritis (95%)
JIA

**Clinical Appearance and course of uveitis in JIA**

- Chronic
- Usually bilateral
- Often a white eye, though AC reaction may vary from minimal to significant
- Relatively symptom free with insidious onset
- **Non granulomatous**

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**Follow-up**

- All cases of ANA positive JIA need follow-up regularly
  - 4 times per year in the first 3 years of diagnosis in the absence of uveitis
  - Then 2 times per year in the next 6 years
  - More as needed in the presence of uveitis

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**Why the follow-up regimen?**

- Minimal symptoms with JIA related AU can lead to months of active disease without seeking care
- This leads to insidious vision loss as a result of cataract, glaucoma and band keratopathy

http://www.eyesurgeryinberkshire.co.uk/information_ae/aer_band_keratopathy.html
JIA Clinical Pearls

• Patient Setting: very young patient, nearly always with an antecedent history of arthritis
• Clinical Picture: chronic, mildly symptomatic to asymptomatic anterior uveitis, most often bilateral
• Confounding diagnosis – Masquerade Syndrome

Behcet’s Disease

• Aggressive chronic relapsing vasculitis of medium to small vessel beds of unknown etiology
• Described by Hippocrates
• Affects the eye, oral/genital mucosa, skin
• Causes:
  – Oral ulcers
  – Genital ulcers
  – Uveitis
  – Erythema nodosum
Behcet's Disease

- Peak incidence between 2\textsuperscript{nd} and 4\textsuperscript{th} decades
- Distribution varies on population
  - North America: 0.3-5/100,000
    - 0.2-0.4\% of uveitis clinic referrals
  - Japan: 17/100,000
    - May account for up to 20\% of uveitis clinic referrals
    - Responsible for 12-20\% of cases of blindness developed before middle age
  - 20-400/100,000 in Turkey
  - Not purely genetic, dramatically less incidence in people of Japanese ancestry who immigrate to North America

Behcet's Disease

- Findings
  - Acute with explosive intensity
  - 90\% bilateral
  - Recurrent
  - Nongranulomatous
  - Hypopyon common
  - Retinitis/vasculitis
    - Unlike other posterior uveitides, the choroid and RPE are relatively spared

Behcet's Disease: Posterior Findings

- Vaso-occlusive events and subsequent neovascularization occur and are the primary source of vision loss
- Optic disc edema
- After ten years, 10\% have good VA while 56\% have CF-NLP
Behcet’s Disease

• Diagnosis
  – Based on clinical findings – must have recurrent painful oral ulcers and 2 of:
    • Genital ulcers
    • Uveitis
    • Positive Pathergy test
    • Erythema nodosum
  – HLA-B51 – not diagnostic
  – Pathergy test is declining in sensitivity and both pathergy and HLA testing vary in sensitivity among different ethnicities

Behcet’s Disease

• Treatment
  – Immunsuppression with corticosteroids, oral and topical for flare-ups
  – May become resistant to therapy in which case cytotoxics are indicated (cyclosporin A)

Behcet’s Disease Pearls

• Patient Setting: Young/middle aged Asian (near, middle or far east) patient has highest risk. Rare in north America. Paired with recurrent oral ulcers as well as ulcerations of genitals
• Clinical Picture: intense recurrent bouts of acute non granulomatous uveitis, generally bilateral. Retinal vasculitis and its sequela may develop
Herpetic**

**Clinical picture may be granulomatous or non-granulomatous

Herpetic

- Second most common cause of uveitis
  - 4.5-18.6% of uveitis cases
  - Estimated that ~20% of uveitis episodes in elderly population are herpetic in nature
  - May be HSV or VZV, possibly CMV

Herpetic

- Is uveitis without concomitant or immediately preceding dendritic keratitis common in herpetic disease?
  - YES!!!
- May present as a secondary finding with preceding dermatologic or ocular involvement or as an isolated entity
Herpetic

- Clinical appearance
  - Non-granulomatous>granulomatous
  - Sectoral iris atrophy classically attributed to VZV but may also be present in HSV
  - KP are classically diffuse, may also be linear, often described as stellate
  - Corneal edema is common – usually with granulomatous KP underlying edema = disciform endotheliitis

Linear KP/Endotheliitis

Diffuse KP
KP underlying disciform disease

Herpetic

- Clinical Appearance
  - Elevated IOP frequently as a result of trabeculitis (up to 90%)
  - It's speculated that Posner-Schlossman is frequently caused by CMV uveitis
  - Rare vasculitis retinitis

Herpetic

- Diagnostic Testing
  - Typically on clinical appearance/setting — any anterior uveitis non-responsive to steroid should alert to possible herpetic etiology, particularly in the elderly
  - Anterior chamber tap with PCR invasive, but possible
Herpetic

- Treatment
  Should be based on etiology. There is disagreement in literature whether herpetic iritis and trabeculitis are infectious or inflammatory.
  - Should respond to:
    • Oral Antivirals
    • Topical Corticosteroids

Herpetic Pearls

- Patient Setting:
  - Over the age of 60 most likely
  - may not have known previous episode of herpetic ocular disease

- Clinical Picture:
  - Mild to moderate unilateral typically anterior uveitis (HSV AAU, VZV CAU). May be paired with any combination of OHTN, corneal edema, sectoral iris atrophy and diffuse or sectoral KP

Masquerade Syndromes
Masquerade Syndromes

• Subset of conditions that may cause uveitis but are due to external factors
  – Intraocular foreign body
  – Retained lens material after cataract surgery
  – Brimonidine side effect
• Or systemic conditions causing pseudo-uveitis
  – Lymphoma or leukemia

Masquerade Syndromes

Masquerade syndromes

• Cataract surgery preceding a new onset uveitis is almost always going to be the etiology
Masquerade Syndromes

Masquerade syndrome

Brimonidine Iritis

- Granulomatous
- Late side effect; 12 mos after beginning drop

Masquerade Syndromes

- Masquerade Syndromes
  - Lymphomas and leukemias, may result in pseudo inflammatory intraocular white cells that are cancerous in origin – most often involves pseudo vitritis
  - Primarily affects elderly or children

Masquerade Syndrome Pearls

- Behave more as chronic uveitis
- May be granulomatous or non-granulomatous
- Age and history are key
  - History of occupational/avocational hazards
  - History of cataract surgery relative to onset of problem
  - History of prior lymphoma or leukemia diagnosis

Granulomatous Uveitis

- Sarcoidosis
- Toxoplasmosis
- Herpetic (variably)
- Syphilis (variably)
- Tuberculosis
- Fuchs Heterochromic
- Voyt Koyanogi Harada Syndrome
- Sympathetic Ophthalmia
Sarcoidosis

- Multi-system idiopathic disease characterized by non-necrotizing granuloma formation
- Most commonly affects lungs, eyes and skin, but liver, nervous system, spleen, heart and lymph nodes may also be impacted
- Lung and eye are most commonly involved organs

10-17 times more likely in African population
- But... most likely in northern European Countries

Most common source of ocular inflammation in Japan

US Incidence is 16/100,000

More common in women

Most commonly begins in adulthood, but pediatric cases are possible

Disease manifests differently across racial groups

Level of Interest in Epidemiology of Sarcoidosis

- Very Interested: 82%
- Somewhat Interested: 1%
- Not Interested: 15%
- Please Kill Me: 2%
Sarcoidosis

- Systemic Symptoms:
  - generally non-specific like fatigue and weight loss
  - Most common symptom is No symptoms!
  - Lung involvement can cause a dry/non-productive cough

- Ocular involvement in 30-60% of cases and may present in relative isolation
- Has wide ranging ocular manifestations, anterior uveitis being only one
- The most common:
  - chronic
  - granulomatous source of uveitis

- Clinical Presentation and Course
  - Typically chronic granulomatous Uveitis
  - 80% bilateral
  - Mutton Fat KP (~60% of cases)
  - Iris Nodules (~30% of cases)
  - Tent shaped PAS
  - Intermediate uveitis
  - CME (56%)
  - Retinal Vasculitis
  - Pan Uveitis
  * With or without Multifocal Choroiditis

International Criteria for the Diagnosis of Ocular Sarcoidosis: Results of the First International Workshop on Ocular Sarcoidosis (IWOS)
Sarcoidosis

• Prognosis
  – Impacted by findings
    • Anterior Uveitis Only (12% risk of vision reduced to 20/40 or worse)
    • Intermediate Uveitis (4-5 times the risk of VA 20/40 or worse)
    • Pan Uveitis
      – Without multifocal choroiditis (46% develop it)
      – With multifocal choroiditis (71% develop reduced vision)

Sarcoidosis

• Diagnostic Testing
  – ACE (angiotensinogen converting enzyme)
  – Lysozyme
    • Not very sensitive 40-60% positives
  – Chest X ray or CT
    • 50-80% sensitive

Combining these tests (blood test + imaging) has 75-85% sensitivity for sarcoidosis

Lung findings may be transient

Sarcoidosis

• Treatment Considerations
  – Typically responds to topical anti-inflammatories and mydriatics
  – In the absence of appropriate control, oral steroids can be used
  – If the disease becomes recalcitrant, cytotoxic or immunomodulatory drugs can be used
    • Methotrexate (IM and Oral as well as anti TNF-alpha drugs)
Sarcoidosis Pearls

- Patient Setting: More likely in African population and in middle age (though even juvenile onset is possible) may have skin lesions, dry cough or general fatigue — though being asymptomatic is most common
- Clinical Picture: Varied, granulomatous findings need not be present, may show anterior intermediate, posterior or pan uveitis. Typically chronic and bilateral but not always
- Note: Diagnostic Tests for Sarcoid are not particularly sensitive because of this, sarcoid likely accounts for a significant percentage of idiopathic uveitides

Toxoplasmosis

- Common source of infectious posterior uveitis
- Develops by ingesting Toxoplasma gondii (protazoan) oocysts
- Possible link to drinking water
- Active disease is most common in adults in immune suppressed
Toxoplasmosis

- Clinical Appearance
  - Focal posterior retinitis with overlying vitritis
  - Often spills over into granulomatous anterior chamber reaction
  - OHTN often pairs with anterior segment reaction (75% of cases)

Toxoplasmosis

- Serum Toxo Titers
  - IgG titers indicate past disease
  - IgM titers indicate current disease
  - PCR of vitreal cavity is possible
Toxoplasmosis

• Tx:
  – Classic Triple Therapy:
    • Pyrimethamine/Sulfadiazine/
      Folic Acid
  – Clindamycin
  – Zithromax
  – Bactrim (1-2) DS qid.
  – Topical corticosteroids and mydriatics

http://www.mrcophth.com/retinacases/toxoplasmosis.html

Toxoplasmosis Pearls

• Patient Setting: Significantly more common in immune suppressed
• Clinical Picture: Focal Retinitis with overlying vitritis. Anterior disease is typically granulomatous and associated with ocular hypertension

Syphilis
Syphilis

- Sexually transmitted disease caused by the spirochete, Treponema pallidum
- In 2000, the number of new cases of syphilis in the US was ~6,000. In 2010 that number is up to ~14,000
- Rate is increasing the highest in homosexual or bisexual men, IV drug users or people who engage in casual promiscuous sex
- Uveitis is the most common ophthalmic manifestation of the disorder
- Accounts for ~0.2-5% of uveitis patients at a referral center

Syphilis

- Stages
  - Stage 1: Small sore (chancre) at the site of infection. Last 3-6 weeks and heals without treatment
  - Stage 2: May occur as the chancre heals or well after. Appears as a non-itching, splotchy red/brown rash on palms of hands and soles of feet (common stage for uveitis)
  - Stage 3: Latent stage no rash progression to cardiac and neurosyphilis possible (common stage for uveitis)

Syphilis

- Laboratory studies
  - Can’t be grown in vitro, too small to see with light microscope
  - RPR and VDRL – nontreponemal studies are positive in active disease, less sensitive during latency and after treatment
  - FT-Abs MHA-TP – treponemal – near 100% sensitive for stages other than primary syphilis. May continue to be positive after treatment
Syphilis

- Can cause inflammation to any level of the eye:
  - episclera, sclera, cornea, uvea (anterior, intermediate, or posterior), retina, optic nerve; therefore inflammation at any of these layers requires consideration of syphilis

Syphilis

- Ocular Findings
  - Anterior Uveitis (Granulomatous or non-granulomatous)
  - Interstitial Keratitis that is painful in acute stages
  - Iris lesions (roseola, papulosa, nodosa)
  - Focal or multifocal choroiditis
  - Vasculitis
  - Retinitis
  - Papillitis

  - Retinal vasculitis and optic neuritis are somewhat suggestive of leptic source
  - Incomplete resolution with topical steroid is an indication to check syphilis serologies

Syphilis

- Treatment considerations
  - Treated as neurosyphilis
    - IV penicillin G X 2 weeks 2.4 million Units qid
Syphilis Pearls

• Patient Setting: Patients who engage in high risk sexual behavior/drug use behaviors
• Clinical Picture: Varied!
• Can’t rule in or out on clinical picture or patient setting – because of this any uveitis that doesn’t respond typically to therapy should have syphilis on differential

Said no patient...ever

Tuberculosis

• Background
  – 1 BILLION people infected with Mycobacterium tuberculosis worldwide – 10% of which develop frank TB
  – Accounts for 7% of deaths across the world
  – Ocular involvement may occur in isolation
  – Only accounts for ~ 0.5% of cases seen in uveitis clinics
Tuberculosis

• At risk populations:
  – Patient from endemic area
  – Health care workers
  – Immune suppressed

Tuberculosis (TB) New Cases in the 22 High-Burden Countries (HBCs), 2013

Tuberculosis

• Clinical Presentation
  – Granulomatous (mutton fat KP, iris nodules)
  – Iris synechiae are common
    • broad synechiae posterior synechiae raise suspicion
  – Choroiditis with choroidal granulomas are often the earliest sign
  – Retinal vasculitis
  – Serpigenous choriditis
  – In a high risk TB population these findings should warrant investigation

Tuberculosis

• Diagnostic Considerations
  – PPD gold standard of minimally invasive testing, but has a 17% false negative
  * False positives if from a country with a BCG vaccination program
  – Chest X-ray looking for upper lobe cavitation or infiltration

http://www.oftalmologystudium.studium/stud11-1/11a-01eng.htm
Tuberculosis

• Treatment considerations
  – Local/Topical corticosteroids are ok
  – Systemic Steroids may kill your patient
  – Requires systemic multi-drug antibiotic therapy
    • Ethambutol is known cause of medically induced optic neuropathy

Tuberculosis Pearls

• Patient Setting:
  • At risk populations: people from third world countries, Health care workers, immune suppressed individuals. May have a history of chronic cough

• Clinical Picture
  • Granulomatous anterior uveitis with broad posterior synechiae, most frequent initial appearance is choroiditis

Fuch’s Heterochromic Iridocyclitis
Fuch’s Heterochromic

• Unusual unilateral uveitis characterized by:
  – Second most common form of chronic uveitis
  – Minimal symptoms
  – Mild anterior uveitis
  – Heterochromia
    • May have iris atrophy without frank heterochromia as well
  – DIFFUSE Stellate KP
  – Relative recalcitrance to standard treatment

Fuch’s Heterochromic

• Proposed link to Rubella virus

Fuch’s heterochromic: Treatment considerations

• The typical source of vision loss is glaucoma and cataract
• The iritis rarely produces CME or synechia
• Inflammation is not as responsive to anti-inflammatories as most uveitides
• Therefore, aggressive anti-inflammatory treatment is not indicated, rather treatment focuses on IOP control
Fuch’s Pearls

• Patient Setting: any demographic, but most common in middle aged adults
• Clinical Picture: Chronic unilateral asymptomatic uveitis. Heterochromia – may be subtle, unilateral diffuse KP and relative recalcitrance to conventional therapy, chronic

Summary:

If all you have is a hammer…

• Anterior Uveitis is caused by a broad range of conditions
• If the only tool you feel you have to differentiate among these entities are labs, your ability to manage uveitis will suffer

Summary

• Instead of relying on labs to perform your differential for you, pay attention to the available sign posts:
  – Clinical picture
    • Primary: Classify the episode
    • Secondary: Identify useful diagnostic findings
  – Patient setting
    • Primary: Patient demographics
    • Secondary: Targeted review of systems
Lastly:

• I have anterior uveitis, which etiology do I most likely have?

And it’s not syphilis!

Thanks!

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