Anterior Uveitis

Associated Conditions & Co–management issues

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Learning objectives:

1. Review the anatomy of the uveal tract
2. Identify the symptoms and signs of anterior uveitis
3. Knowledge of the systemic associations of anterior uveitis

Suggested reading:

Smith JR. Coster DJ. Diagnosing the systemic associations of anterior uveitis. *Australian & New Zealand Journal of Ophthalmology. 26(4):319-26, 1998 Nov.*

Uveitis

- ✦ All uveitis is potentially sight-threatening
- ✦ Some uveitis is potentially life-threatening
- ✦ Treatments can be sight & life-threatening

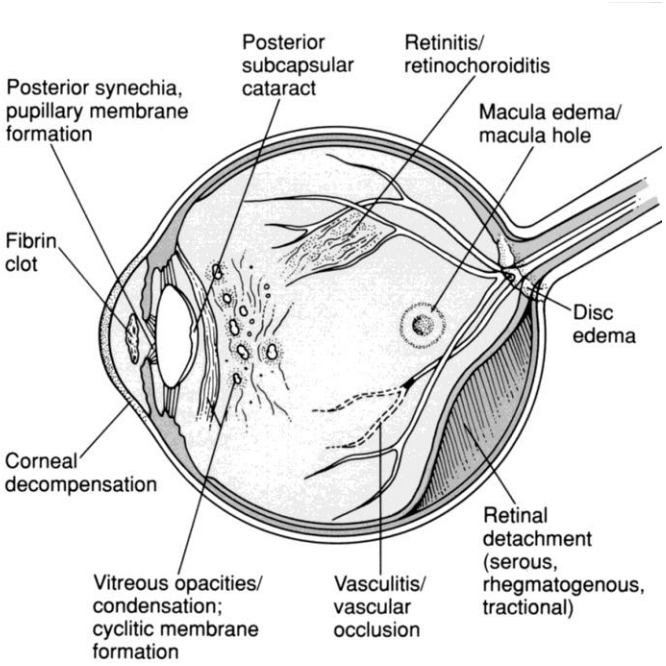
… so be watchful

Review of Basics

- ✦ KP
  - Distribution? Sparse/widespread = good
  - Colour? Pigmented = good
  - Size? Small/stellate = good
- ✦ AC cells - active inflammation
- ✦ AC flare - leaky bv (<u>not</u> sign of activity)
- ✦ PS / AS - bad sign
- ✦ Band keratopathy? - longstanding

Uveitis – practical approach

- ✦ 1. Location
  - Anterior (iritis, iridocyclitis)
  - Intermediate (pars planitis)
  - Posterior (vitritis, retinitis, choroiditis, vasculitis)
  - Panuveitis
- ✦ 2. Course
  - Acute, chronic, recurrent
- ✦ 3. Laterality
  - Unilateral, bilateral
- ✦ 4. Pathology
  - Non-granulomatous, granulomatous
- ✦ 5. Cause
  - Infectious (viral, bacterial, fungal, parasitic, protozoal, rickettsial)
  - Non-infectious
    - Autoimmune
    - Systemic (collagen vasc dis, rheumatologic dis, etc)
    - Neoplastic (masquerade syndromes – B-cell lymphoma, retinoblastome, leukaemia)
    - Traumatic (surgical, non-surgical, chemical)
    - Idiopathic



Anterior Uveitis

- ✦ Confirm diagnosis of antr or iridocyclitis
- ✦ Exclude posterior involvement …. Must dilate (+90 or +78D lens)
- ✦ Consider targeted further investigations
  - Blood tests (HLA-typing, ANA, toxoplasmosis titres, syphilis, HIV, etc)
  - FFA, OCT III
  - CXR
  - VF

Anterior Uveitis - Iritis

24 per 100,000 population / year:

Idiopathic iridocyclitis	30-50% (%total iritis)
HLA-B27 +ve	20-50%
HSV / VZV keratouveitis	10%
Juvenile Rheumatoid Arthritis	9%
Ank' Spond (HLA-B27)	7%
Fuchs heterochromic	5%
Reiter's synd (HLA-B27)	4%

Granulomatous Uveitis

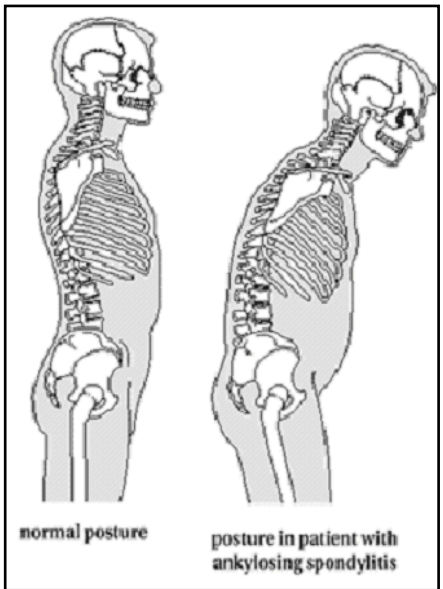
- ✦ **Sarcoidosis**
- ✦ Sympathetic ophthalmia
- ✦ Multiple sclerosis
- ✦ Lens-induced uveitis
- ✦ Vogt-Koyanagi-Harada syndrome
- ✦ Syphilis
- ✦ TB

HLA B27 related iridocyclitis

- ✦ 20-50% acute AAU are HLA B27 +ve
- ✦ 9.6% of NZ Europeans are HLA B27 +ve
- ✦ Half of these have a seronegative (RhF&ANA–ve) spondylarthropathy (back arthritis) (ankylosing spondylitis, Reiter's, psoriatic arthropathy)
- ✦ HLA B27 also assoc with inflammatory bowel disease (Crohn's, Whipple's, ulcerative colitis)

Associations of HLA B27

✦ Ankylosing spondylitis	> 90%
✦ Reiter's syndrome	70-90%
✦ Psoriatic spondylitis	60-70%
✦ Inflammatory bowel disease	70%
✦ Acute anterior uveitis	19-88%
✦ Cardiac conduction defects	15-20%
✦ Isolated aortic insufficiency	15%



HLA B27 related iridocyclitis

- Young, adult, M > F
- Acute, severe, uni / bilat asymmetrical
- KP non-granulomatous
- Test for HLA typing if: young, back pain, arthralgias, dysuria, GI symptoms
- Lower risk of visual loss (cf HLAB27-ve)

Fuchs heterochromic iridocyclitis

- Heterochromia - use daylight
- Unilateral - 90%
- KP: Fine, stellate, widespread
- Cells: AC & antr vitreous ± PVD
- Flare: minimal
- PS: absent
- Cataract: 15-75%
- Glaucoma: 16-60%
- **Steroids contraindicated** (usually)

Herpetic kerato-uveitis

- HSV or VZV
- HSV – disciform keratitis KP under corneal oedema
  dendritic ulcer – uveitis rare
- Posner-Schlossman syndrome – HSV? 'glaucomatocyclitic crisis'
  IOP 40-60mmHg & minimal uveitis

Herpetic kerato-uveitis

- VZV (HZO) – Hutchinson's sign
- Uveitis in 50% with nasociliary nerve involvement
- Iridocyclitis with occlusive vasculitis - sector iris atrophy
- Non-granulomatous
- Glaucoma & Cataract common
- Watch for postr involvement

Juvenile Rheumatoid Arthritis

- JRA – most common systemic condition assoc with iridocyclitis in children
- 'Spondyloarthropathies' 70%: Systemic onsent JRA (Still's Disease)
  Polyarticular JRA (≥5 joints in ≤ 3 mths) Pauciarticular JRA (25% develop uveitis)
- Usually ASYMPTOMATIC
- Poor prognosis: pauciartic', girls, ANA+ve

JRA uveitis screening

JCA onset	Uveitis Risk	Exam frequency
Pauci' ANA+ (<5 joints in 3mth)	++++	3 mthly
Pauci' ANA-	+++	4 mthly

Poly' ANA+	(>5 joints in 3mth)	++	6 mthly
Poly' ANA-		+	9 mthly
Systemic		±	annual

Traumatic Iridocyclitis

- ✦ Common with blunt trauma
- ✦ LOOK for other anterior/posterior injury
  - Angle recession / cyclodialysis cleft
  - Lens dislocation
  - Commotio retinae / retinal dialysis
  - Choroidal breaks

Cystoid Macular Oedema

- ✦ VA does not match signs
- ✦ PH VA poor <6/9
- ✦ ALWAYS dilate
- ✦ Absent foveal reflex?
- ✦ 'petalloid' perifoveal cysts?
- ✦ OCT III (or FFA)

Anterior uveitis – masquerade syndromes

- ✦ Endophthalmitis!!
- ✦ Lymphoma
- ✦ Leukaemia
- ✦ Intraocular FB
- ✦ Malignant melanoma
- ✦ Retinoblastoma
- ✦ Juvenile xanthogranuloma

Thank You

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USEFUL DIAGNOSTIC TESTS FOR INTRAOCULAR INFLAMMATION

Type of Uveitis and Test	Primary Indication
Anterior uveitis	
ANA	Onset in youth
HLA-B27	Abrupt unilateral onset, recurrent, severe
RPR	All, but especially with signs of secondary syphilis
Intermediate uveitis	
Sarcoidosis screening (chest radiography, ACE)	Especially with prominent anterior inflammation
RPR	All, but especially with signs secondary syphilis
ESR, C-reactive protein	Nonspecific tests for unsuspected systemic disease
CBC	Nonspecific test for systemic disease
	Screening test for leukemia, parasitosis
Posterior uveitis	
RPR, followed by FTA-Abs	All forms
HLA-A29	Choroidal depigmentation
Screening tests for sarcoid	Chorioretinal scars
	Choroidal granulomas
Diagnostic vitrectomy	Lymphoma spectrum
Retinal vasculitis	
Chemistry panel, CBC, ANA, ANCA, RPR, ESR, sarcoid screening, HLA-B51, HLA-A29, Lyme antibodies, PPD, urinalysis	All except classic pars planitis
Above plus cardiolipin antibodies, protein C, protein S, antithrombin III, Leiden factor V mutation	Occlusive vasculitis
Miscellaneous	
Toxoplasmosis titer	Focal chorioretinitis
HIV titer	Disseminated necrotizing chorioretinitis, suspected syphilis or tuberculosis
RPR, ANA, ANCA, ESR, C-reactive protein, rheumatoid factor	Episcleritis/scleritis