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:

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 (not 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
✦ Excluding 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 (Rheum & 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
- ‘Spondyloarthopathies’ 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**

<table>
<thead>
<tr>
<th>JCA onset</th>
<th>Uveitis Risk</th>
<th>Exam frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauci’ ANA+ (&lt;5 joints in 3mth)</td>
<td>++++</td>
<td>3 mthly</td>
</tr>
<tr>
<td>Pauci’ ANA-</td>
<td>+++</td>
<td>4 mthly</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>Type of Uveitis and Test</th>
<th>Primary Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anterior uveitis</strong></td>
<td></td>
</tr>
<tr>
<td>ANA</td>
<td>Onset in youth</td>
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<tr>
<td>HLA-B27</td>
<td>Abrupt unilateral onset, recurrent, severe</td>
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<tr>
<td>RPR</td>
<td>All, but especially with signs of secondary syphilis</td>
</tr>
<tr>
<td><strong>Intermediate uveitis</strong></td>
<td></td>
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<tr>
<td>Sarcoidosis screening (chest radiography, ACE)</td>
<td>Especially with prominent anterior inflammation</td>
</tr>
<tr>
<td>RPR</td>
<td>All, but especially with signs secondary syphilis</td>
</tr>
<tr>
<td>ESR, C-reactive protein</td>
<td>Nonspecific tests for unsuspected systemic disease</td>
</tr>
<tr>
<td>CBC</td>
<td>Nonspecific test for systemic disease</td>
</tr>
<tr>
<td>RPR, followed by FTA-Abs</td>
<td>Screening test for leukemia, parasitosis</td>
</tr>
<tr>
<td>HLA-A29</td>
<td></td>
</tr>
<tr>
<td><strong>Posterior uveitis</strong></td>
<td></td>
</tr>
<tr>
<td>Screening tests for sarcoid</td>
<td>Choroidal depigmentation</td>
</tr>
<tr>
<td>Diagnostic vitrectomy</td>
<td>Chorioretinal scars</td>
</tr>
<tr>
<td>Retinal vasculitis</td>
<td>Choroidal granulomas</td>
</tr>
<tr>
<td>Chemistry panel, CBC, ANA, ANCA, RPR, ESR, sarcoid screening, HLA-B51, HLA-A29, Lyme antibodies, PPD, urinalysis</td>
<td>All except classic pars planitis</td>
</tr>
<tr>
<td>Above plus cardiolipin antibodies, protein C, protein S, antithrombin III, Leiden factor V mutation</td>
<td>Occulsive vasculitis</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td></td>
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<tr>
<td>Toxoplasmosis titer</td>
<td>Focal chorioretinitis</td>
</tr>
<tr>
<td>HIV titer</td>
<td>Disseminated necrotizing chorioretinitis, suspected syphilis or tuberculosis</td>
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<tr>
<td>RPR, ANA, ANCA, ESR, C-reactive protein, rheumatoid factor</td>
<td>Episcleritis/scleritis</td>
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