Introduction

Abrupt onset of inflammation in the episclera
- A mild, isolated problem
- Responds readily to topical therapy
- Typically resolves over a short course

A small number of patients
- Have an underlying systemic disease

Anatomy

A. Bulbar conjunctival plexus
   - Freely moveable, hair-like vessels
   - Bright red when inflamed
B. Episcleral plexus
   - Straight, radially arranged
   - Salmon pink color when inflamed
C. Scleral plexus
   - Immobile criss-cross vessels
   - Bluish-red color, when inflamed
Epidemiology

- Diffuse: 70%
- Nodular: 30%

70% Females
Mean age 47.4 years

What is the epidemiology of episcleritis?

A. More males
B. More females
C. Younger than 40
D. Older than 40
E. Older than 60
Disease Association (Rare)

<table>
<thead>
<tr>
<th>SIMPLE EPISCLERITIS</th>
<th>NODULAR EPISCLERITIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seronegative spondyloarthritides</td>
<td>Idiopathic</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>Rheumatoid arthritis (6%)</td>
</tr>
<tr>
<td>ANCA-associated vasculitis</td>
<td></td>
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</tbody>
</table>

Medication-Induced

Pathogenesis

<table>
<thead>
<tr>
<th>NONIMMUNE</th>
<th>IMMUNE</th>
</tr>
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<tbody>
<tr>
<td>Dry eye syndrome</td>
<td>Acute type 1 hypersensitivity</td>
</tr>
<tr>
<td></td>
<td>Type 3 hypersensitivity</td>
</tr>
<tr>
<td></td>
<td>Syphilis or tuberculosis</td>
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<tr>
<td></td>
<td>Type 4 delayed hypersensitivity</td>
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</table>
Episcleritis

Symptoms

<table>
<thead>
<tr>
<th>SIMPLE EPISCLERITIS</th>
<th>NODULAR EPISCLERITIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute onset</td>
<td>Slow onset</td>
</tr>
<tr>
<td>Mild or no pain</td>
<td>Increasing discomfort</td>
</tr>
<tr>
<td>Heat, prickling</td>
<td>Worsens over several days</td>
</tr>
<tr>
<td>Resolves over several days</td>
<td></td>
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<tr>
<td>Recurrence is common</td>
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</table>

Exam Findings

<table>
<thead>
<tr>
<th>SIMPLE EPISCLERITIS</th>
<th>NODULAR EPISCLERITIS</th>
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</thead>
<tbody>
<tr>
<td>Diffuse edema</td>
<td>Localised edema with vascular congestion</td>
</tr>
<tr>
<td>Mild flush to brick red</td>
<td>Tender, mobile nodule(s)</td>
</tr>
</tbody>
</table>

What are the differential diagnoses for episcleritis?

A. subconjunctival hemorrhage  
B. conjunctivitis  
C. blepharitis  
D. keratitis  
E. scleritis  
F. acute anterior uveitis  
G. acute angle-closure glaucoma
Episcleritis versus conjunctivitis

- Bacterial, viral, allergic
- Redness and discharge
- Diffuse injection 360°

Conjunctivitis

Episcleritis versus scleritis

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>Episcleritis</th>
<th>Scleritis</th>
</tr>
</thead>
<tbody>
<tr>
<td>In daylight</td>
<td>Salmon pink</td>
<td>Purple/grey choroid</td>
</tr>
<tr>
<td>Slit-lamp (red-free)</td>
<td>Yellow patch</td>
<td>Scleral edema, vessels, avascular patches</td>
</tr>
<tr>
<td>10% phenylephrine</td>
<td>More constriction</td>
<td>Minimal constriction</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Mild or no pain</td>
<td>Severe pain, phhtophobia</td>
</tr>
<tr>
<td>Scleral edema</td>
<td>No</td>
<td>Yes or thinning</td>
</tr>
</tbody>
</table>

Diagnosis

1st episode: complete eye exam with a thorough history

Recurrence or other comorbidity: additional investigations
What are the basic lab work up?

A. CBC
B. Serum Chemistry
C. Urinalysis
D. ESR
E. CRP

Basic Lab Workup

- Complete blood count
  - WBC, platelet, or hematocrit
- Serum chemistry profile
  - Creatinine, blood urea nitrogen
- Urinalysis with microscopy
- Acute phase reactants
  - ESR, CRP

Extensive Lab Workup

- Rheumatoid factor
- Rheumatoid vasculitis
- Antibodies to cyclic citrullinated peptides (anti-CCP antibodies)
- Rheumatoid arthritis
- Antineutrophil cytoplasmic antibodies (ANCA)
- Wegener’s vasculitis
- Antinuclear antibody (ANA)
- Lupus
- Serum complement C3, C4
- Antibodies to dsDNA
- Antibodies to Ro, La, Sm, or RNP antigens
Imaging & Other testing
Chest x-ray
Endoscopy

How is episcleritis managed?
A. Topical lubricants
B. Topical NSAIDs
C. Topical steroids
D. Oral NSAIDs
E. Oral Steroids

TREATMENTS
Topical lubricants
- 4-6X per day
Topical NSAIDs
- Diclofenac qid
Topical glucocorticoids
- FML or PF qid
Oral NSAIDs
- Indomethacin 25 mg tid
PROGNOSIS
Sx usually resolve in 7-10 days
Nodular may take longer
Corneal infiltrates and low-grade uveitis occur rarely

CONCLUSIONS
Episcleritis have a mild, isolated problem
Responds to topical therapy alone
A minority have an underlying systemic disease
Episcleritis could be an early presentation of scleritis
Accurate distinction between episcleritis and scleritis is critical

References