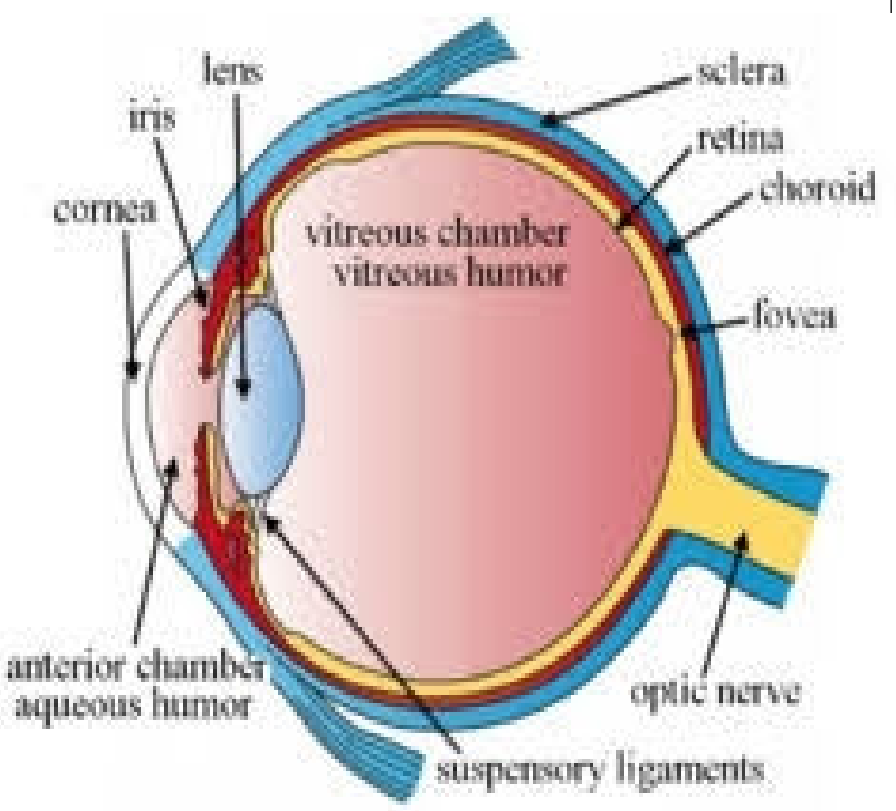
Episcleritis and Scleritis

Ophthalmology

Applied Anatomy

- Sclera forms the posterior five-sixth opaque part of the of the eyeball.
- Its whole outer surface is covered by Tenon's capsule and bulbar conjunctiva.
- Its inner surface lies in contact with choroid with a potential suprachoroidal space in between.



- It is generally thinner in children & females.
- Sclera is thickest posteriorly (1mm) and is thinnest at the insertion of extraocular muscles (0.3 mm).
- Lamina cribrosa is a sieve-like sclera from which fibres of optic nerve pass.

Microscopic structure

1. Episcleral tissue.
2. Sclera proper.
3. Lamina fusca.

Vasculature:

1. Conjunctival vessels
2. Episcleral vessels
3. Deep vascular plexus

EPISCLERITIS

- Benign recurrent inflammation of the episclera,
- Common
- Benign
- Self-limiting
- Recurrent
- Never progresses to scleritis
- Rarely associated with systemic disease

Etiology

- Exact etiology is not known.
- It is found in association with gout, rosacea and psoriasis.
- It has also been considered a hypersensitivity reaction to endogenous tubercular or streptococcal toxins.

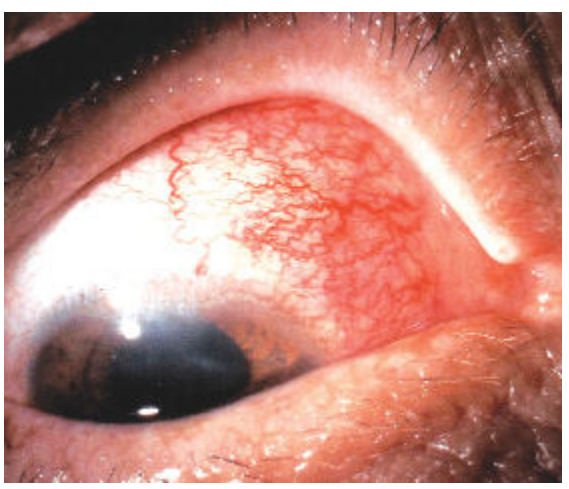
Pathology

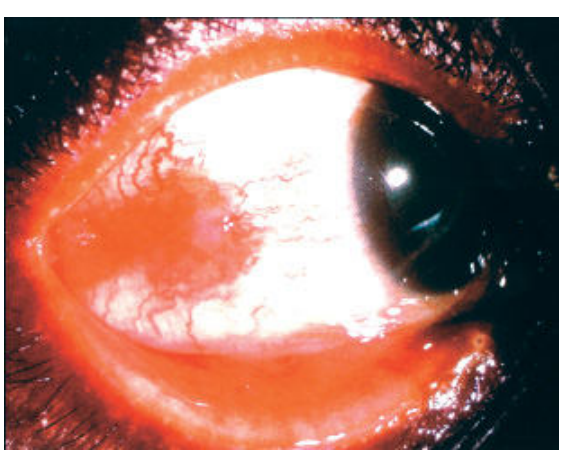
- Histologically, there occurs localised lymphocytic infiltration of episcleral tissue associated with oedema and congestion of overlying Tenon's capsule and conjunctiva.

Clinical picture

- **Symptoms.**
- Redness, mild ocular discomfort, burning sensation or foreign body sensation.
- Rarely, mild photophobia and lacrimation may occur.

- **Signs**
- Simple or diffuse episcleritis
  - Sectoral redness
  - Diffuse redness
  - Resolves in 1-2 weeks
- Nodular episcleritis
  - Focal, raised, nodular
  - Sclera uninvolved
  - Longer to resolve





- Vessels remain radial and mobile
- Palpation of the globe often elicits marked tenderness in scleritis, but generally not in episcleritis.

- **Phenylephrine diagnostic test**:

  Hyperemia usually blanches with topical phenylephrine (2.5%) in episcleritis but not in scleritis.

Management

- **Mild cases**
  - – Usually no specific Rx
  - – If discomfort
    - Lubricant
    - Topical NSAID eg acular (keterolac trimethamine)
    - Mild topical corticosteroid

      Or systemic Ibuproven/aspirin

Investigate in recurrent cases.

SCLERITIS

- Scleritis refers to a chronic inflammation of the sclera proper. It is a comparatively serious disease which may cause visual impairment and even loss of the eye if treated inadequately.
- Relatively rarer than episcleritis
- Usually bilateral
- More common in females
- Associated with connective tissue disorders in upto 50% of cases.
- Granulomatous inflammation
- Mild to blinding spectrum

Clinical classification of Scleritis

It can be classified as follows:

I. *Anterior scleritis (98%)*

1. Non-necrotizing scleritis (85%)

(a) Diffuse

(b) Nodular

2. Necrotizing scleritis (13%)

(a) with inflammation

(b) without inflammation (scleromalacia perforans)

II. *Posterior scleritis (2%)*

Associated systemic conditions

- Rheumatoid Arthritis
  - 1:200 develop scleritis
- Connective Tissue Disease
  - Wegener granulomatosis
  - Systemic lupus erythematosus
  - Polyarteritis nodosa
  - Ankylosing spondilytis

Associated systemic conditions

- Herpes Zoster Ophthalmicus
- Metabolic disorders like gout and thyrotoxicosis
- Granulomatous diseases like
  - Tuberculosis,
  - Syphilis,
  - Sarcoidosis,
  - Leprosy
- Miscellaneous
  - Surgically induced
  - Infectious
- Idiopathic

Clinical features

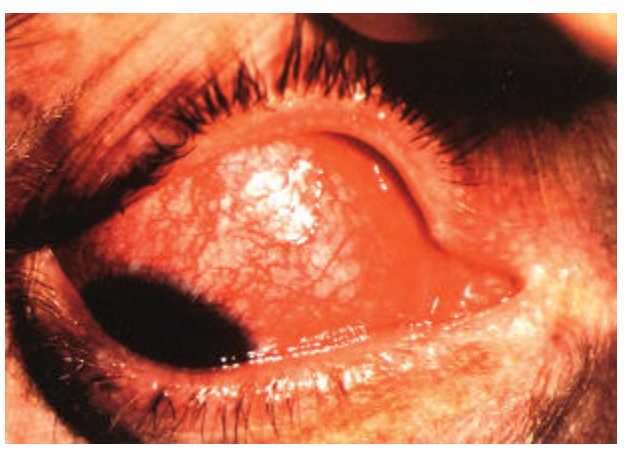
- Symptoms
  - Pain
  - Redness
  - Photophobia
  - Lacrimation
  - Diminution of vision

Clinical features

- **Signs**

1. Non-necrotizing anterior diffuse scleritis.

- Commonest variety,
- Widespread inflammation involving a quadrant or more of the anterior sclera.
- The involved area is raised and salmon pink to purple in colour

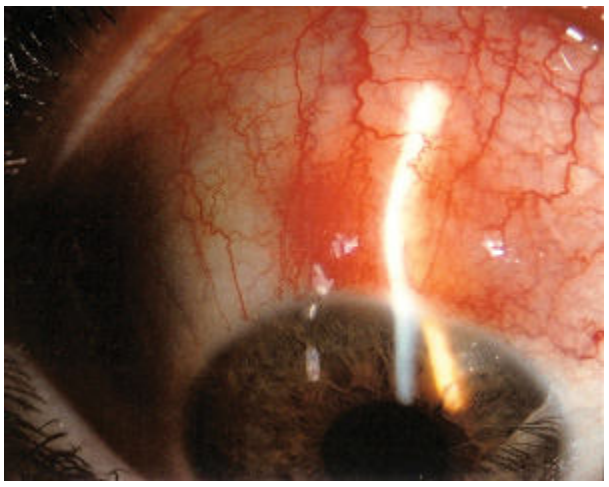


Clinical features

- **Signs**

2. Necrotizing anterior nodular scleritis.

- characterised by one or two hard, purplish elevated scleral nodules, usually situated near the limbus
- Sometimes, the nodules are arranged in a ring around the limbus ***(annular scleritis)*.**



Clinical features

Signs

3. Necrotizing scleritis with inflammation.

- The affected necrosed area is thinned out and sclera becomes transparent and ectatic with uveal tissue shining through it.
- It is usually associated with anterior uveitis.

***4*. Anterior necrotizing scleritis without inflammation (scleromalacia perforans).**

- Usually associated with seropositive RA
- Painless scleral thinning due to ischaemia.

- **Posterior Scleritis**
- Defined as primarily arising posterior to the equator
- Painful or painless diminution of vision
- Proptosis
- Restricted ocular movements
- Disc or macular edema
- Choroidal folds or detachment
- Uveal effusion syndrome
- Retinal detachment
- **Scleral thickening seen on CT or USG B scan.**

Investigation

1. TLC, DLC and ESR
2. Serum levels of complement (C3), immune complexes, rheumatoid factor, antinuclear antibodies and L.E cells for an immunological survey.
3. FTA - ABS, VDRL for syphilis.
4. Serum uric acid for gout.
5. Urine analysis.
6. Mantoux test.
7. X-rays of chest, paranasal sinuses, sacroiliac joint and orbit to rule out foreign body especially in patients with nodular scleritis.

Management

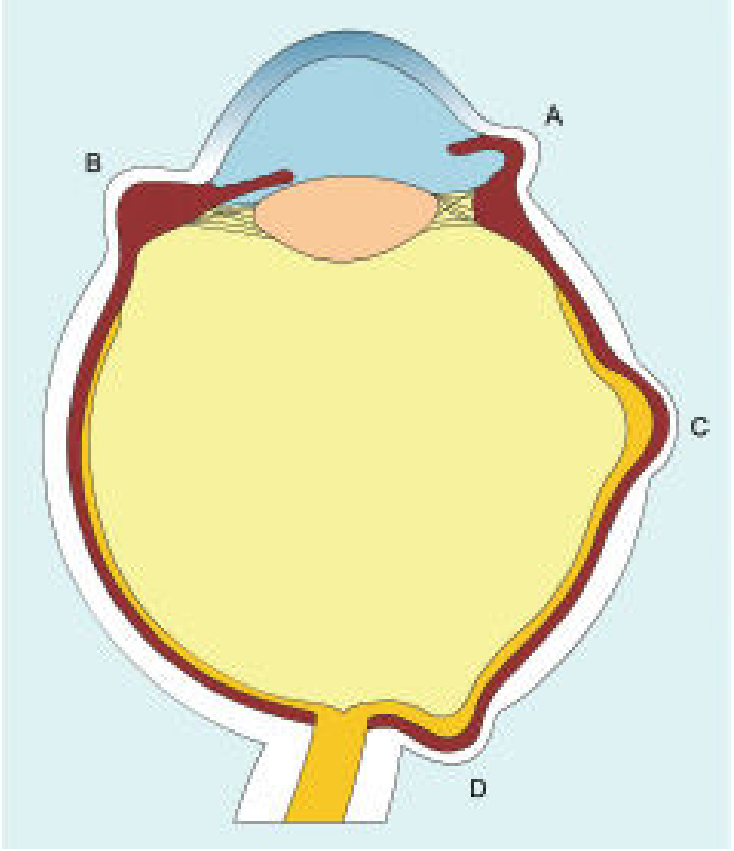
- **(A) Non-necrotising scleritis.**
- Steroid eye drops and systemic indomethacin 100 mg daily for a day and then 75 mg daily.
- **B) Necrotising scleritis.** It is treated by topical steroids and heavy doses of oral steroids tapered slowly.
- Immuno-suppressive agents like methotrexate or cyclophos-phamide.
- Subconjunctival steroids are contraindicated because they may lead to scleral thinning and perforation

STAPHYLOMAS

- Ectasia or bulging of the outer coats (cornea, sclera or both) of the eye with incarceration of the uveal tissue.
- Due to weakening of the eye wall resulting from any degenerative or inflammatory condition of the same.
- Types:

A. Anterior (involves cornea)
B. Intercalary (with in 2mm of limbus)
C. Ciliary (2-8mm behind the limbus
D. Equatorial (14mm behind the limbus)
E. Posterior (posterior to equator)

- A: Intercalary staphyloma
- B. Ciliary staphyloma
- Equatorial staphyloma
- Posterior staphyloma



Management

- Treat the underlying cause like, scleritis, RA, vit A def or cornal ulcer.
- Local excision and patch graft of cornea or sclera
- Enucleation with implant.

Thank You