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Syphilis

DESCRIPTION

Syphilis is a sexually transmitted, chronic, systemic infection by the spirochete bacterium *Treponema pallidum*. Infection, which occurs through intact mucous membranes or skin defects, may be congenital or acquired.

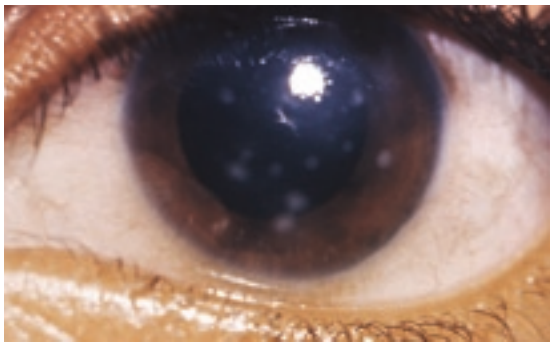
- Infants with congenital syphilis may develop mucocutaneous lesions, lymphadenopathy, hepatosplenomegaly and jaundice. Children develop a typical facial appearance, with widely-spaced, peg-shaped teeth, frontal facial bossing and a saddle-shaped nose
- Acquired syphilis has three stages (if untreated):
  - Primary syphilis is characterised by the chancre – a painless, ulcerated lesion at the site of inoculation, which usually appears one week to three months after exposure
  - Secondary syphilis reflects haematogenous spread, leading to notoriously diverse and fluctuating clinical manifestations, for example, skin lesions, constitutional symptoms and lymphadenopathy
  - In the latent stage, infection is detectable only by serological tests. One-third of untreated patients eventually progress to tertiary syphilis, with chronic vasculitic lesions that may affect the heart, major blood vessels, central nervous system (neurosyphilis), kidney, bone, skin or eye.

SYMPTOMS

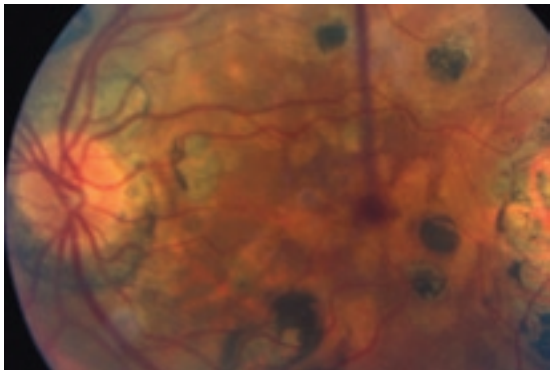
Anterior uveitis may produce blurred vision, pain, redness and photophobia. Posterior uveitis may produce fluctuating blurred vision and floaters.

OCULAR SIGNS

- Congenital syphilis: Interstitial keratitis may develop later in childhood, with corneal vascularisation and cellular infiltration, resulting in corneal scarring and ghost vessels. Chorioretinitis produces pigmented spots dispersed among pale, atrophic areas ('salt and pepper fundus').
- Acquired syphilis:
  - Iritis-signs of anterior uveitis include fine or coarse 'mutton-fat' keratic precipitates on the corneal endothelium, dilated iris capillaries and fleshy pink nodules near the iris sphincter. Chronic iritis in tertiary syphilis classically produces the Argyll Robertson pupil, which reacts to accommodation but not light
  - Signs of posterior uveitis and retinal vasculitis include vitreous flare, multiple yellow patches of retina and exudates along retinal vessels. Old chorioretinal lesions may resemble retinitis pigmentosa; areas of chorioretinal scarring and optic atrophy occasionally ensue
  - Syphilis may also cause neuroretinitis, with disc oedema and a macular star.



Interstitial keratitis in a patient with late congenital syphilis. Image courtesy of Susan Lindsley, Centers for Diseases Control (phil.cdc.gov)



Multiple areas of pigment epithelial hyperplasia and atrophy secondary to chronic inflammation from syphilis

PREVALENCE

Syphilis is rare in developed countries, but accounts for up to 4 per cent of cases of uveitis in developed countries.

SIGNIFICANCE

The retinal vasculitis, uveitis or corneal vascularisation are potentially blinding.

DIFFERENTIAL DIAGNOSIS

Sarcoidosis, Intraocular lymphoma, Lyme disease, Cytomegalovirus, Toxoplasmosis, Rubella and other causes of anterior or posterior uveitis.

MANAGEMENT

Blood tests, microbiology

The fluorescent treponemal antibody, Absorbed (FTA-ABS) is a very sensitive and specific screening blood test. Other tests can exclude other potential causes of uveitis (such as, HLA typing), or co-infections in immunosuppressed patients (for example, toxoplasma serology). Evaluation for neurosyphilis via lumbar puncture may be indicated. Notification of public health authorities is required in many countries; and HIV testing is advised upon diagnosis.

Medications

The indications for treatment are complex and include blood tests, clinical signs and disease duration. Acquired syphilis of less than one-year duration may be treated with intramuscular injections of penicillin. Long-standing disease is treated with three intramuscular injections at weekly intervals. Empirical treatment for chlamydia co-infection is generally indicated. Neurosyphilis or syphilitic uveitis requires hospital admission for intravenous penicillin, or an alternative antibiotic in the case of penicillin allergy.

Topical medications

Anterior segment inflammation may be relieved with cycloplegic medications and topical steroids, with monitoring of intraocular pressure. Steroids may be required for periphlebitis.

Review

The Venereal Disease Research Laboratory (VDRL) titre is measured at three and six months following treatment. These results, in unison with clinical features, determine future treatment.

The full series of these articles is available in the book *Posterior Eye Disease and Glaucoma A-Z* by Bruce AS, O'Day J, McKay D and Swann P. £39.99. For further information click on the Bookstore at **opticianonline.net**

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