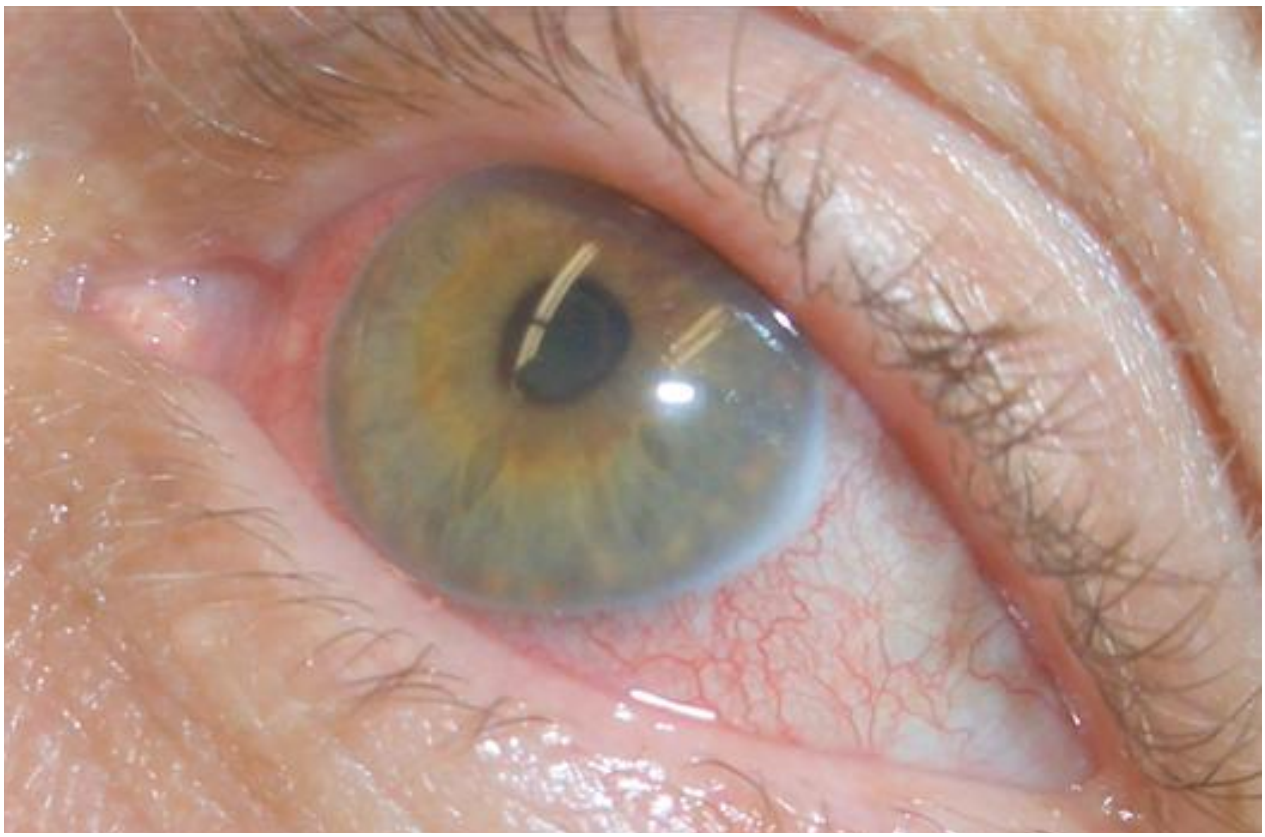
ED QUICK QUIZ

WHAT IS THE DIAGNOSIS?

BACKGROUND

A 42-year-old man presents to the emergency department (ED) complaining of left eye irritation that has lasted for approximately 2 weeks. He states that he experienced a similar episode about a year ago for which he was prescribed antibiotic eye drops, without subsequent improvement. He denies any discharge from the eye, and he states that he has not suffered any trauma or any exposure to dust or other potential foreign bodies. The patient reports mild light sensitivity and slightly blurred vision.

On physical examination, the patient is noted to have normal and stable vital signs. The examination of the eye reveals conjunctival infection of the left eye without discharge. There is no chemosis. His visual acuity without corrective lenses is 6/12 bilaterally. Eye motion is intact without discomfort. Tonometry reveals an intraocular pressure of 16 mm Hg in both eyes. On slit-lamp examination, the iris of the left eye appears small and slightly irregular, and a ring of brownish discoloration is noted within the pupil. A fluorescein exam is unrevealing, and administration of a topical anaesthetic into the affected eye yields only 5 minutes of partial relief of the patient's discomfort.



QUESTIONS

1. What is the diagnosis?
2. What will slit lamp exam show?
3. Can you explain the intraocular pressures?
4. What are the causes?

ANSWERS & DISCUSSION

1. Diagnosis

Chronic Anterior Uveitis

While it may seem that this patient has conjunctivitis, the image shows 2 somewhat subtle findings that differentiate the diagnosis of chronic anterior uveitis from that of conjunctivitis. The first **is redness, which is most intense at the limbus** (the area of the conjunctiva just outside the cornea). The second finding is **brown pigmentation in the lens capsule, likely from posterior synechiae** (pigmented fibrous bands that tether the posterior iris to the anterior lens). Anterior uveitis (which includes in its definition iritis, anterior cyclitis, and iridocyclitis) is an inflammatory condition that affects the iris and the ciliary body. The inflammation may be secondary to an underlying autoimmune disorder, trauma, or infection; often, the cause remains obscure despite an extensive work-up.[1]

The clinical presentation of acute anterior uveitis usually includes a history of unilateral eye redness associated with photophobia and pain without discharge. Mild blurred vision over a period of hours to days may occur, but a severe deficit is uncommon. By contrast, patients with chronic anterior uveitis, such as in this case, may only present with mild redness and blurring of vision, which both progress over a period of several days; often, there is no significant pain. The examination findings should include some combination of ciliary flush or conjunctival injection, photophobia, and cells and a flare reaction within the anterior chamber. One key finding that distinguishes uveitis from conjunctivitis, which is a far more common condition, is the presence of a **perilimbal flush** (an intense infection in the bulbar conjunctiva immediately adjacent to the cornea). A perilimbal flush may also occur with various forms of keratitis. Another key feature is **consensual photophobia** (pain provoked in the symptomatic eye when the unaffected eye is exposed to light). The pain is provoked by constriction of an inflamed iris and ciliary body rather than irritation of the retina itself. In chronic cases, consensual photophobia may be absent, but posterior synechiae may be present instead. The synechiae may result in the appearance of a **small, irregular, tethered pupil**. In advanced cases, acute angle-closure glaucoma and pupillary block may result from the formation of the synechiae.

2. Slit lamp exam

Slit-lamp examination findings in iritis include the presence of cells and a protein haze known as "**flare**," a marker of acute inflammation, in the anterior chamber of the eye. Slit-lamp examination for cells and flare should use high magnification and a narrow, shortened beam of light that is smaller than the size of the pupil. The beam should be directed into the eye from a lateral angle for better visualization of the flare, which is similar in appearance to a flashlight beam through smoke or fog.[1] The quantity of cells and the intensity of the flare may vary; at their most extreme, they produce a **hypopyon** (a layer of white blood cells in the anterior chamber that settles with gravity in a fashion similar to a hyphema). A persistent flare may be present in cases of chronic uveitis and is caused by damage to the vasculature of the iris rather than an acute inflammatory process.

3. Intraocular pressure

The intraocular pressure may initially be low because of decreased aqueous humor production, but eventually may increase because of synechiae formation and plugging of the trabecular meshwork

with inflammatory cells. In advanced cases, increased intraocular pressure may potentially lead to glaucomatous atrophy of the optic nerve.

4. Causes

Uveitis may be classified as anterior, intermediate, posterior, or panuveitis. Most cases of uveitis (approximately 75%) are anterior. The most common causes of anterior uveitis are idiopathic (approximately 50%); seronegative spondyloarthropathy (25%), juvenile rheumatoid arthritis, and herpetic keratouveitis can also cause uveitis, as well as retained foreign bodies, infection, and blunt trauma (this etiology tends to result in maximum symptoms within 24 hours after injury). Treatable infections, such as syphilis, HIV, herpes zoster, cytomegalovirus, toxoplasmosis, Lyme disease, cat-scratch disease, and tuberculosis can also lead to uveitis. Rarely, leukemia, sarcoidosis, multiple sclerosis, and lupus can cause anterior uveitis.

In this case a VDRL test turned positive & the patient's iritis was diagnosed as resulting from untreated secondary syphilis. The presence of posterior synechiae indicated that his episode of 'conjunctivitis' a year ago was possibly a missed case of uveitis.