Case 12

History of Present Illness

A 58-year-old woman began complaining of gradually worsening right eye pain for 6 years. She was diagnosed with dry eye syndrome. Artificial tears and warm compresses help to some degree. The pain is a deep ache in and behind the right eye which can increase to 5/10 at times. The pain is intermittent lasting several weeks at a time and then gradually resolving. She notes mild tearing, but no foreign body sensation or itching. She has a history of classic, right-sided migraine headache for the past 20 years. Brain MRI 5 years ago was normal. She has significant photophobia with the eye pain but denies nausea, vomiting, or phonophobia.

Past medical and ocular history Back pain Osteoarthritis in the knees and hips Hypertension	*Past surgical history* Cataract removal right eye 2 years ago
Medications Atenolol Nasonex Alprazolam Sumatriptan	*Family history* Father—Heart disease Brother—Glaucoma, brain tumor, heart Disease Sister—Rheumatoid arthritis
Social history Former smoker (pack a week × 10 years, quit last year) Does not drink Retired Salvation Army worker	*Review of systems* Overactive bladder Shortness of breath Arthritis Panic attacks Numbness in back and arms Some incoordination

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Examination
Acuity with correction Right eye: 20/25 Left eye: 20/20
Pupils Slightly sluggish, equal, no afferent pupillary defect
Intraocular pressure Right eye: 14 mmHg Left eye: 17 mmHg
External exam Unremarkable
Eye alignment and motility Normal
Slit lamp examination 1+ conjunctival injection BE Fine, diffuse endothelial keratic precipitates BE 2–3+ white blood cells BE Old cells in anterior vitreous No posterior synechiae
Visual field Normal
Fundus examination Mild cup to disc asymmetry (0.4 RE and 0.5 LE) Otherwise normal
Neurologic examination Normal

Discussion

Ophthalmic Perspective: Dr. Lee

Generally speaking dry eye does not cause 5/10 eye pain. Additionally, she has not improved significantly with dry eye treatment. Her corneas do not show evidence of dry eye as well. Although the patient has a history of right-sided migraine and migraine can cause eye pain, generally migraine headaches do not last weeks at a time. The main diagnosis here relies upon the slit lamp examination. The conjunctival injection, keratic precipitates, and white blood cells in the anterior chamber are most consistent with a bilateral anterior uveitis. One final nonspecific clue is that patients with uveitis can be quite photophobic because the inflammation irritates the iris. This tends to hurt when the iris constricts to light. I do not know why she only complained of right eye pain when she had bilateral findings.

We like to divide uveitis into granulomatous vs. nongranulomatous inflammation. Granulomatous uveitis shows larger keratic precipitates called “mutton fat” (Fig. 12.1). This distinction helps guide the work-up. For instance, the most frequent differential diagnosis of granulomatous disease includes tuberculosis, sar-

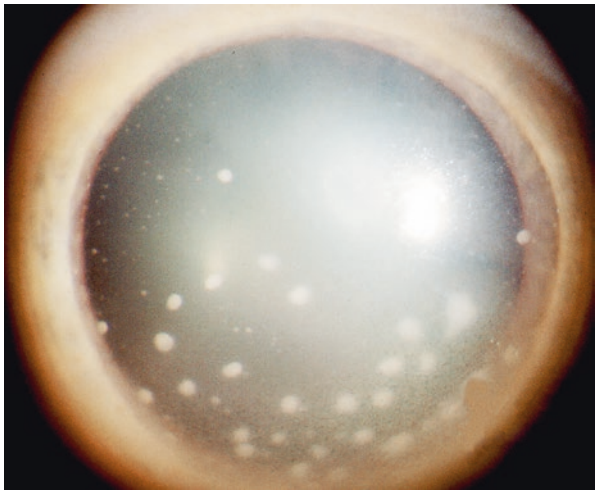

Fig. 12.1 Slit lamp examination shows a pharmacologically dilated pupil. There are several large, white lesions on the back of the cornea consistent with mutton-fat keratic precipitates seen in granulomatous uveitis

coidosis, syphilis, Lyme, toxoplasmosis, and granulomatosis with polyangiitis (Wegener's). The most common differential overlaps for nongranulomatous disease and includes syphilis, sarcoidosis, ankylosing spondylitis, lupus, and rheumatoid, and tubulointerstitial nephritis, and herpes simplex. Rarely, multiple sclerosis can also cause granulomatous or nongranulomatous uveitis. Fifty percent of patients have idiopathic uveitis, but if the above workup is negative and the patient has recurrent disease, then I will send the patient to a uveitis specialist.

A systemic workup is indicated for granulomatous uveitis, bilateral uveitis, and recurrent uveitis. Patients with a first-time attack of nongranulomatous disease in one eye may sometimes be treated without a workup. Treatment often includes topical corticosteroid eye drops. This is often begun empirically before testing for infectious disorders comes back. I like to start with prednisolone acetate 1% every hour while awake for a week followed by a taper to 6x/d for a week and reducing by 1 drop/day every week for 6 weeks. If they have a recurrence on this regimen, then I restart the drops with a slower taper over months. In some cases, recurrent and recalcitrant uveitis requires the use of depot steroid injections, implantable steroid, and systemic immunosuppression including oral prednisone, tumor necrosis alpha inhibitors, and methotrexate.

Neurologic Perspective: Dr. Digre

Really the only thing one would see on examination if a slit lamp exam was not done was some conjunctival injection. So, without a slit lamp exam this could be confused with a lot of other things like dry eyes or even migraine—which can go on for weeks at a time in certain individuals (but usually they have a history of migraines that are prolonged in duration). The sluggishly reactive pupils may be

another clue that an ocular process is occurring. The other clue is complaint of photophobia—Photophobia is a symptom that requires an explanation. We are told that she has no phonophobia, nausea and this pain does not feel like her migraine. So, something is wrong. The most common ocular causes of photophobia are dry eyes and iritis; other causes of photophobia would be blepharospasm (Case 6), which will have characteristic eyelid closure; and migraine should be diagnosed by history.

Once uveitis is diagnosed by slit lamp, looking for underlying causes is important as Dr. Lee has pointed out. While this patient does not seem to have a severe headache accompanying her uveitis, there are some uveitides that go with meningitis that can have headaches associated with them. See Table 12.1 for a partial list.

Table 12.1 Uveitis and meningitis syndromes (adapted in part from: Allegri et al. J Ophthalmic Vis Res. 2011;6:284)

Infectious
Virus (Herpes, cytomegalovirus, herpes zoster, West Nile virus, HIV virus
Bacterial: Bartonella Henslae (cat scratch disease), Whipples
Myocobacteria: Tuberculosis
Spirochete: Lyme disease, Syphilis, Leptospirosis
Protozoa: Toxoplasmosis, pneumocystis cariii
Autoimmune
Polyartereritis nodosa
Polyangiitis (Wegener's granulomatosis)
Sjögren's syndrome
Rheumatoid arthritis
Systemic Lupus erythematosus
Sarcoidosis
Vogt-Koyanagi Harada disease
Behçet's disease
Acute multiocal placoid pigment epitheliopathy
Neoplasm
Lymphoma
Demyelinating disease
Multiple sclerosis
Acute disseminated myelitis

Non-ophthalmic/Non-neurologic Perspective

Uveitis really requires a good slit lamp exam to make the diagnosis. Sometimes, the patient will have injection next to the colored part of the eye called limbal flush. The rest of the conjunctiva appears relatively white. This can be suggestive of uveitis, but is not a specific sign. Patients with mild eye redness without discharge and photophobia may have uveitis and may need a slit lamp exam.

Follow Up

This patient was diagnosed with uveitis. Her workup included a normal ANA, ACE, RPR, HLA-B27, urinalysis, ESR, RF, and chest X-ray. She was started on prednisolone acetate 1% as described above and her uveitis was resolved at her 6 week return. The pain resolved slowly over about a week or so after treatment was begun. She was diagnosed with idiopathic anterior uveitis and did not suffer a recurrence. *Final diagnosis: anterior uveitis*.

For Further Study

1. Agrawal RV, Murthy S, Sangwan V, Biswas J. Current approach in diagnosis and management of anterior uveitis. Indian J Ophthalmol. 2010;58:11–9.
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