Abstract

A forty-six year old African American female with Reiter’s Syndrome presents with her twentieth case of acute anterior uveitis and a history significant for four cases of Mooren’s ulcer.

Case History

A forty-six year old African American female presented to SUNY College of Optometry University Eye Center complaining of redness, photophobia and dull pain in the left eye more than the right eye for three days. She began self treating with Pred Forte 1% twice daily for the last two days and Cycloplenome 1% once the day before.

Ocular history was significant for twenty documented recurrences of acute anterior uveitis since 1994, increasing in number with four in the past 12 months. She was also successfully treated for Mooren’s ulcer, twice in the right eye, once the left eye and once in both eyes with Vigamox and Pred Forte 1%.

Medical history was significant for Reiter’s Syndrome, diagnosed in 2001 by her rheumatologist. Chronic shoulder pain, treated with corticosteroid injections, prompted hematologic and radiographic studies. At the time of diagnosis, she tested HLA-B27 positive. Other indicated testing ruled out Ankylosing Spondylitis, Systemic Lupus Erythematosus, Rheumatoid Arthritis, Syphilis, Tuberculosis and Sarcoidosis. Medical history was also significant for Fibromyalgia, for which she takes Cyclobenzaprine and Savella. Surgical history included removal of uterine fibroids, tubal ligation and rotator cuff repair. Of interest, the patient presented with alopecia due to a heavy pulse of corticosteroids for treatment of reactive arthritic pain following Reiter’s diagnosis.

Pertinent Findings

Entering corrected distance visual acuities were 20/20 and 20/20 in the right and left eyes respectively. Pupils were equal, round and reactive to light with no afferent papillary defect. Extraocular motility testing revealed full range of motion and confrontation fields were full to finger count in both eyes.

Upon examination, biomicroscopy revealed 2+ bulbar injection and 3+ bulbar injection in the right and left eyes respectively. Angles were open by Van Herick estimation and fine keratic precipitates were noted on the endothelium of corneas. The cornea was negative for sodium fluorescein staining, but a thickened slightly opacified superior nasal limbus was noted in the left eye. Anterior chamber evaluation showed trace cellular response with trace flare in the right eye and 1+ cellular response in the left eye. Trace pigment was observed on the anterior capsule of the right lens and no anterior vitreal cells were noted in either eye. All other anterior segment findings were unremarkable. Goldmann applanation tonometry measured intraocular pressures of 14mmHg and 13mmHg in the right and left eyes respectively. Dilated fundus examination was unremarkable.
**Differential Diagnosis**

Based on the clinical presentation, a diagnosis of acute anterior uveitis was made. There was an absence of differentials because the patient’s diagnosis was attributed to a previously established history of Reiter’s Syndrome. If there was no established diagnosis, other viable differentials based on bilateral presentation, chronicity and HLA B27 positivity would include other spondyloarthropathies (Bechet’s Disease, Ankylosing Spondylitis and Psoriatic Arthritis) as well as Vogt-Koyanagi Harada Syndrome, Inflammatory Bowel Disease, Sarcoidosis, Tuberculosis and Syphilis.

Of note, Vogt-Koyanagi Harada Syndrome presents with alopecia, poliosis, dysacousis and vitiligo. As noted above, the patient presented with alopecia, but did not show the later three clinical findings.

**Discussion**

Acute anterior uveitis is often the first clinical presentation of an undiagnosed HLA-B27 systemic disease\(^1\). Increased permeability and leukocytic filtration are hallmarks to acute anterior uveitis\(^2\). Bilateral or recurrent unilateral presentation warrants a full systemic workup due to the high association with systemic disease. HLA-B27 associated uveitis usually presents unilaterally, but has a tendency to alternate in laterality and generally lasts less than three months\(^2\). The most common HLA-B27 associated diseases are the spondyloarthropathies which includes Reiter’s Syndrome\(^3\).

Reiter’s Syndrome presents with the classic triad of arthritis, nongonococcal urethritis and conjunctivitis. There is a strong (75-90%) association with HLA-B27 and onset generally occurs between 15 to 40 years of age\(^3\). Systemic manifestations usually occur less than one month following acute nonspecific urethritis (postvenereal) or acute diarrhea (postdysenteric)\(^3\). Although conjunctivitis is part of the clinical triad, there is a wide spectrum of ocular manifestations in Reiter’s Syndrome. These include iridocyclitis, keratitis, episcleritis, disc edema, retinal edema, retinal vasculitis and secondary glaucoma.

Mooren’s ulcer secondary to Reiter’s Syndrome is poorly represented in the literature, although keratitis is a known ocular manifestation of the systemic disease. There is limited knowledge as to the pathophysiology of Mooren’s ulcer, but leading evidence suggests an underlying autoimmune component making a diagnosis secondary to Reiter’s Syndrome plausible. Clinically, Mooren’s ulcer presents as nasal or temporal peripheral corneal thinning with overlying epithelial loss that progresses circumferentially to involve the entire peripheral cornea. Immunologic and histological studies have shown the peripheral corneal is more similar to the limbus than the central cornea\(^4\). This allows the peripheral cornea to become susceptible to an exacerbated immune response in an otherwise avascular tissue.

An unusual aspect of this case is that the patient is female. According to the literature, Reiter’s Syndrome is four times more likely in males and Mooren’s ulcer is 1.6 times more likely in males\(^3,4\). Also unusual is the clinical manifestation of Mooren’s ulcer. As previously noted, this is not well represented in the literature but the etiology of Reiter’s Syndrome is conceivable based on the histopathology of the peripheral cornea and presumed immune-mediated pathophysiology.
Treatment and Management

The patient was initially treated with Pred Forte 1% four times daily and Cyclopentolate 1% two times daily. She presented two weeks later after self tapering with a recurrence of anterior uveitis. Dosing of Pred Forte 1% was increased to every three hours and is currently on a slow taper with weekly follow-ups to encourage patient compliance.

Systemic treatment of Reiter’s includes NSAIDs, corticosteroids and immunosuppressive therapy to control the reactive arthritis and ocular inflammation. Due to the chronicity of presentation, which is well documented in this case, prophylaxis for recurrent anterior uveitis is being considered. Long term instillation of topical steroids every other day may be helpful, but comes at an increased risk of ocular side effects including increased susceptibility to infection, cataracts and glaucoma. Literature suggests long term therapy of oral sulfasalazine reduces both the frequency and severity of recurrent anterior uveitis. The mechanism by which inflammation is reduced is through altering lipooxygenation of arachidonic acid therefore reducing production of leukotrienes – a key mediator in inflammation. Unless contraindicated by a sulfa allergy, dosage begins at 500mg/day increasing 500mg/week to a stable dose of 2g/day (1 gram twice daily). Excretion of oral sulfasalazine by the liver requires close monitoring of liver function and increases risk of liver toxicity with chronic use. Prophylactic topical steroid therapy is being considered following resolution of the patient’s anterior uveitis given an increased frequency (four times in 12 months) of recurrence.

Management of this case has been difficult because the patient often self-medicates due to the chronic nature her condition. Self-tapering of Pred Forte 1% often leads to a recurrence during treatment. There may be more than twenty recurrences of anterior uveitis since 1994 which are undocumented because the patient successfully self-treated without presenting to clinic.

Conclusion

Acute anterior uveitis is frequently the first clinical presentation of an undiagnosed HLA-B27 disease. A full systemic workup is indicated in bilateral and recurrent unilateral cases. Reiter’s syndrome, although less common in females, should remain as a differential diagnosis. Clinicians need to be aware of other ocular manifestations in Reiter’s Syndrome, including Mooren’s ulcer. Often prophylactic therapy is indicated to reduce the acute presentations of this chronic disease.

References
