Management of Non-Resolving Nodular Episcleritis in the Presence of Systemic Conditions resulting from Alcoholism

Abstract
This case report discusses ocular complications of alcoholism and highlights the importance of interdisciplinary collaboration in a community health care setting for the effective management of patients with complex medical and social histories.

I. Case History
- 46 year old Caucasian Male
- Complains of redness on the nasal half of left eye for 1 month with mild itching, (-) pain, (-) discharge, (-) involvement of other eye. No change in symptoms since onset.
- Ocular History: None; this is patient’s first eye exam. No prior history of red eye.
- Medical History:
  Uncomplicated alcohol dependence for > 20 yrs
  Chronic gout of multiple sites x 10 years
  Alcoholic cardiomyopathy x 5 years
  Chronic systolic congestive heart failure, severe
  Persistent atrial fibrillation with automatic implantable cardioverter-defibrillator
  Essential (primary) hypertension
  Primary insomnia
- Medications:
  allopurinol 300 mg tablet bid
  colchicine 0.6 mg tablet PRN
  furosemide 80 mg tablet qd
  rivaroxaban 20 mg tab qd
  lisinopril 20 mg tablet qd
  metoprolol 200 mg 24 hr tablet qd
  acetaminophen 325 mg tablet PRN
  vitamin B-1 100 mg tablet qd
  folic acid 1 mg tablet qd
  multivitamin tablet qd
- Social history: History of drinking 6-7 beers per day with additional consumption of hard liquor for about 20 years. Currently drinks about 3 beers per day.
- Pt denies any recent changes in health, medications, or drinking habits prior to onset of red eye.
II. Pertinent Findings

- **Clinical: OS**: Two elevated, injected and chemotic conjunctival nodules adjacent to and not including nasal corneal limbus. Both lesions together span 6mm vertically. Nodules blanch significantly with 2.5% phenyl, with residual underlying trace injection. Nodules are relatively firm and immobile with pressure from cotton-tipped applicator, while overlying conjunctiva moves freely with pressure. (-) Anterior chamber reaction, posterior segment unremarkable. OU: Mild blepharitis, grade 1 diffuse injection of conjunctiva 360 with redundant conjunctiva temporally.

- **Physical**: (-) pain of big toe, (-) recent flare-ups of gout-related arthritis pain

- **Laboratory studies**: Evaluation of Gout Status
  - Therapeutic target for gout patients: <6.0 mg/dL
  - Uric acid level 2 months prior onset of nodules: 5.9 mg/dL (Borderline)
  - Uric acid level on date of presentation to eye clinic (1 month after onset of nodules): 7.4 mg/dL (Elevated)

III. Differential Diagnosis

- **Leading**: nodular episcleritis
- **Primary**: phlyctenulosis, nodular scleritis
- **Others**: inflamed pinguecula, conjunctivitis

IV. Diagnosis and Discussion

- Nodular episcleritis in this patient is likely associated with gout given the patient’s recent increase in uric acid levels around the onset of his red eye. The patient’s development of chronic gout was likely exacerbated by his alcoholism, as alcohol intake, especially beer drinking, is strongly associated with an increased risk of gout.

- Episcleritis is usually considered to be a benign, self-limited disease that will often resolve without treatment within 2 to 21 days. In this case, however, the episcleritis has persisted for more than two months. Episcleritis warrants our attention as it can present with a wide variety of systemic associations including gout, rosacea, atopy, autoimmune and vasculitic diseases. Sometimes episcleritis may be the first manifestation of systemic disease.

V. Treatment and Management

- **Treatment prescribed by optometry clinic**:
  - 1. Tobradex qid OS and daily lid hygiene x 1 month: minimal improvement in injection; nodules still present
  - 2. Pred Forte 1% qid OS x 1 week: patient missed his follow-up appointment, but reported no improvement in redness on follow-up phone call

- **Treatment prescribed by Primary Care Physician**:
  - Continue allopurinol 300 mg tablet bid consistently to lower uric acid levels

- **Treatments considered but not prescribed**:
  - Oral NSAIDs: Not initiated; contraindicated due to congestive heart failure resulting from alcoholic cardiomyopathy
  - Topical NSAIDs: not initiated as they are not found to be effective
VI. Conclusions

- Systemic complications of alcoholism likely contributed to the development of this patient’s gout which can be an underlying cause of nodular episcleritis, an otherwise benign condition.

- In addition to causing a variety of systemic complications, alcohol abuse has been shown to have the following effects on the eyes:
  - Dry eye symptoms and poor tear film quality
  - Increased prevalence of cataracts
  - Association with ARMD
  - Association with elevated intraocular pressure and glaucoma in several studies
  - Thiamine deficiency can lead to Wernicke’s encephalopathy with associated ophthalmoplegia
  - Higher risk of ocular trauma or traumatic brain injury

- 1 out of 17 U.S. adults report heavy drinking (drinking 15 or more drinks per week for men, or 8 or more drinks per week for women)8.

- Lower income individuals are at a higher risk for heavy, hazardous drinking, with alcohol dependence being most common among those with annual family incomes less than $25,0009,10. It is important to consider the effects of alcohol on both our patients’ eyes and systemic health, especially when practicing in a community health clinic setting.

- Optometrists cannot treat the eye in isolation without considering our patients’ systemic health. This case highlights the importance of collaborating with other health care providers to develop an appropriate treatment plan for patients with a complex medical and social history. The patient’s PCP alerted me to the dangers of prescribing oral NSAIDs for this patient. Oral NSAIDs have been shown to be effective in clearing episcleritis that is non-responsive to topical steroids1,3, but their use could endanger this patient’s life since oral NSAID use may lead to cardiac decompensation in patients with pre-existing heart failure6.

- Community health clinics facilitate interdisciplinary collaboration by housing all providers in one location. This model can improve patients’ health outcomes in areas of low socioeconomic status where substance abuse is prevalent.

Bibliography:


