A Painless Scleritis?
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ABSTRACT: This case presents an atypical scleritis with hyperemia, decreased vision, and no pain, presumed to be secondary to immune-compromise. Proper dose of non-steroidal anti-inflammatory drugs or oral steroids is imperative to protect vision.

I. Case History
   a. 68 year-old Caucasian Male
   b. Painless, progressive red eye with mild irritation and associated watering OD. Started 3 mo ago. Separately, the patient notes mild crusting AM with foreign body sensation OD as well. No fevers, night sweats, weight loss, diplopia, light sensitivity, itching, burning, discharge, change in vision as. Denies previous red eye episodes OU.
   c. Last eye exam:
      1 month ago with optometrist who prescribed antibiotic drops that did not help
   d. Pertinent Medical History:
      Ulcerative Colitis (UC) x 13-14 yrs. – in remission
      Anemia
   e. Systemic Medications:
      Humira® immunosuppressive injections sig 2 wks x 1 yr. for UC
      OTC supplements:
         Multivitamin
         Folic Acid 1mg
         Cyanocobalamin B12
         Fish Oil 1000 mg
         Flaxseed
         Glucosamine
   f. Family History:
      Thyroid disorder – daughter
   g. Social History
      Quit smoking ~ 45 yrs. ago
      Social drinker
      Infrequent marijuana use
   h. Retired Engineer x 30 yrs.

II. Pertinent Findings
   a. Clinical (Initial Visit)
      1. Entering VA (sc) 20/20 OD, 20/20 OS
      2. Pupils, EOM’s, Confrontation VF’s: WNL OD, OS
      3. Slit lamp:
         OD: 2-3+ diffuse conjunctival injection, tr-1+ diffuse papillae on upper/lower lid, no corneal involvement, (-) cell/flare, (-) foreign body
         OS: normal findings
      4. Goldmann IOP: 11mm Hg OD, 11 mmHg OS
5. Blood pressure: 134/83 mmHg
6. External exam:
   OD: mild injection along lid margins, no exophthalmos, mild tenderness
   over ethmoid sinus only (-) frontal sinus, no preauricular lymphadenopathy
   OS: within normal
7. DFE: within normal (-) vitritis/retinopathy OU

b. Follow-up (2 weeks later) – after patient prescribed FML QID OD
   1. All findings stable except:
      A. Entering VA (sc): 20/25 OD, 20/20 OS
      B. Slit lamp:
         OD: 1-2+ edema/erythema sup./inf. lid, (-) tenderness, 3+ deep,
         diffuse conjunctival injection, no corneal involvement
         OS: within normal

c. Follow-up (1 mo later) after prescribed Naproxen po QID
   1. All findings stable except:
      A. Entering VA (sc): 20/30 OD, 20/25 OS
      B. Slit lamp:
         OD: 1-2+ edema/erythema superior and inferior lid, (-) tenderness,
         2+ deep conjunctival injection temporal and nasal, 1+ conjunctival
         injection superior and inferior, no corneal involvement
         OS: within normal

d. Work-up
   1. No Fluorescein staining on cornea OU at all visits
   2. Mild blanching with phenylephrine 2.5% but not completely OD at all visits
   3. CRP within normal range one month prior to initial visit
   4. Vitamin D, 25 OH levels inadequate two months prior to initial visit

III. Differential Diagnosis
   a. Scleritis
   b. Episcleritis
   c. Allergic Conjunctivitis

IV. Diagnosis and Discussion
   a. Diagnosis
      1. Diffuse Anterior Scleritis OD secondary to Ulcerative Colitis and probable
         immunosuppression

   b. Ulcerative Colitis
      1. Form of chronic inflammatory bowel disease (IBD)
         A. HLA B-27+
      2. Extra-intestinal manifestations are common. Ocular symptoms occur in 2-5%
         of patients with IBD. (7).
         A. Episcleritis
         B. Scleritis
C. Uveitis
c. Scleritis is an intense inflammation of the sclera that is often painful and can result in blindness.

1. Diagnosis is based upon clinical presentation: scleral inflammation with involvement of the superficial and deep episcleral venous plexuses. (5)
   A. Phenylephrine 10% can be instilled to rule out episcleritis. (5)
2. Pain is almost always present, but can be absent if the patient is currently on immunosuppressive treatment. (5)
3. * Scleritis can be the first manifestation in 20% patients with systemic autoimmune disease. (5)
4. Types:
   A. Anterior or Posterior
   B. Diffuse or Nodular
   C. Necrotizing or Non-necrotizing
   D. * Diffuse anterior scleritis is the most common in about 45-61% of all cases. (5)
5. One case report presented a patient with very similar ocular symptoms as the case above and was also diagnosed with a painless posterior scleritis. (2)

d. Humira® (Adalimumab)

1. Tumor necrosis factor (TNF) inhibitors prevent TNF from inducing systemic inflammation caused by macrophages, CD4+ lymphocytes, and natural kills cells (1).
   A. Use of tumor necrosis factor inhibitors has been proven to decrease ocular inflammation, particularly Infliximab and Adalimumab. (1)
   B. Adalimumab is a humanized monoclonal antibody that recognizes and binds to TNF. (1)
   C. It is FDA approved for the treatment of ulcerative colitis. (1)
   D. It is given subcutaneously with a loading dose of 80mg, and then 40 mg every week or 20 mg every two weeks. Weekly dosing may be required for ocular disease. (1)
   E. Humanized to decrease the risk of developing antibodies to the TNF inhibitor and thus decreasing its efficacy. (1)
   F. No current studies that evaluate adalimumab as effective systemic treatment for scleritis and systemic effects limit their use. (1) Local administration is preferred, but may not be effective (4)
      1. One case report of significant improvement of a nodular scleritis in a patient diagnosed with rheumatoid arthritis (6)
      2. Difficult to proper assess effectiveness of systemic therapy due to small incidence, range of disease, and low pharmaceutical interest. (3)

V. Treatment/Management
a. Treatment of scleritis (5)
   1. Oral Non-steroidal Anti-inflammatory Drugs
      A. Cyclooxygenase inhibitors
B. Topical corticosteroids are not as effective.

2. Oral Steroids
   A. Prednisone 1mg/kg/day

3. Immunosuppressants
   A. Methotrexate
   B. Azathioprine
   C. Cyclophosphamide

4. Biologic Agents
   A. TNF inhibitors
      1. Infliximab
      2. Adalimumab

5. Surgery
   A. Cataract removal
   B. Transplantation if perforation

6. Preventative Care and Maintenance through Diet (8)
   A. "IBD-AID" diet - consists of lean meats, poultry, fish, omega-3 eggs, select sources of carbohydrate/fruits/vegetables, nut and legume flours, limited aged cheeses, fresh cultured product rich with probiotics, prebiotics that contain beta-glucans and inulin are suggested. (8)
   B. Vitamin D as protective measure. (9)
      1. Natural Vitamin D through sun exposure
      2. Cholecalciferol supplementation
      3. In this particular case, the patient was Vitamin D deficient on testing 1 month prior to reported symptoms.
   C. Fish Oil (10)

b. This patient was started on Naproxen 250mg po QID and Omeprazole 20mg po QD.
   1. Mild resolution of scleritis after one month of follow-up. Still no pain.
   2. We believe that the patient is immunocompromised and, thus, delayed resolution of the patient’s ocular condition is expected.
   3. Current Vitamin D, 25 OH levels results still pending for this patient. We expect mildly higher levels due to increased sun exposure of summer. However, it is likely not adequate.
   4. Upon next follow-up, we expect continuous improvement of this patient’s ocular condition and will determine proper diet and Vitamin D and Fish oil supplementation for long-term preventative care.

VI. Conclusion
   a. Scleritis is a common extra-intestinal manifestation of Ulcerative Colitis. It is important to confirm the diagnosis and classification. Furthermore, it is important to determine complications and evaluate for an underlying cause, especially if there is a systemic etiology. (5)
   b. Optometrists can play strong role in quickly diagnosing and treating this condition with prompt work up and proper referral to prevent severe vision loss.
   c. In addition, as general physicians we can also consider determining natural and safe supplementation for preventative care.
Bibliography


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