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Anti-Tumor Necrosis Factor Alpha in the Treatment of Chronic Bilateral Anterior Uveitis due to Ulcerative Colitis

Abstract:
This case report chronicles the care of a patient with bilateral anterior uveitis associated with pouchitis following complete colectomy due to ulcerative colitis. Resolution to inflammation is found with anti-TNF therapy (Infliximab and Adalimumab).

I. Case history
   a. 67 year old Caucasian male
   b. Bilateral red, aching and photophobic eyes
   c. Ocular history: mild cataracts, glaucoma suspect due to drance hemorrhage near right optic disc in 2008
      i. Medical history: Anemia, anxiety/depression, osteoarthritis, hyperlipidemia, ulcerative colitis
   d. Medications: Amitriptyline, aspirin, bupropion, clonazepam, loperamide, simvastatin, trazodone, Remicade (Infliximab), Humira (Adalimumab), Mercaptopurine (6MP)
   e. Other information: H/o total colectomy and ileal J pouch with loop ileostomy in 2003, recurrent pouchitis episodes since

II. Pertinent findings
   a. BCVA 20/40 OD, 20/25 OS
   b. Perilimbal injection, 2+cells and 3+flare OU, multiple posterior iris synechia OU, IOP 8,9
   c. +ANA, HLA-B27 neg, sed rate 16 (elevated)
   d. Chest Xray negative

III. Differential diagnosis
   a. The likely source of this patient’s bilateral uveitis is his pre-existing history of ulcerative colitis.
   b. Bilateral presentation indicates an underlying systemic etiology. The lack of keratic precipitates makes etiologies such as herpetic, syphilis, and lyme disease less likely. Negative chest X-Ray rules out sarcoidosis and tuberculosis. HLA-B27 negative serology and other systemic health at presentation rules out ankylosing spondylitis, Reiter syndrome, and psoriatic arthritis. Other differentials such as Glaucomatocyclitic crisis and Fuchs heterochromic iridocyclitis are ruled out by
history of normal intraocular pressures. Rheumatology had previously worked up the patient and ruled out systemic lupus erythematosus despite the patient being +ANA.

IV. Diagnosis and discussion
a. Ulcerative colitis is a condition characterized by diffuse superficial inflammation of the colon. Uveitis and episcleritis are the most common ocular manifestations of ulcerative colitis and often occur during flare-ups of intestinal disease. Chronic, severe ulcerative colitis can be surgically treated by proctocolectomy and ileal pouch-anal anastomosis, which involves removing the rectum and part of the colon, and creating a reservoir pouch out of the small intestines. Pouchitis occurs when the ileal-anal pouch becomes inflamed. There are case reports connecting pouchitis with extraintestinal manifestations such as uveitis.

b. The initial episode of uveitis occurred during the same time period the patient was suffering from pouchitis. However, the uveitis continued to wax and wane over a period of 1.5 years. Attempts to control ocular inflammation were unsuccessful with standard topical treatment. Resolution of uveitis was found with systemic therapy using anti-TNF alpha drugs.

V. Treatment, management
a. Initial standard care with Predforte and cycloplegics resulted in recurrent uveitis despite long tapers of the medications.

b. IOP lowering medication for steroid response included Timolol 0.5% and eventually Cosopt.

c. Remicade (infliximab) – works by binding tumor necrosis factor alpha, a chemical messenger in the autoimmune reaction, causing programmed cell death of inflammation mediator T-lymphocytes expressing TNF-alpha. In this patient, Remicade relieved ocular inflammation for several months, but was discontinued due to side effects (aggravating asthma).

d. Mercaptopurine (6MP) – an immunosuppressive drug that works by inhibiting purine synthesis and metabolism in antibody production. 6MP was discontinued by our patient after 2 weeks due to acute pancreatitis.

e. Humira (adalimumab) – another anti-TNF alpha drug that works similarly to Remicade, but differs in that it is constructed completely of human monoclonal antibody, while Remicade is a mouse-human chimeric antibody. Resolution of ocular inflammation is thought to be due to treating the underlying systemic condition. So far, this drug has been successful, although the patient has only been on it for 8 weeks at time of writing.

f. Bibliography:


VI. Conclusion

a. This case highlights the importance of communication and co-management between optometry and other specialty providers such as rheumatology and gastroenterology. It emphasizes the use of new systemic drugs to treat ocular inflammation when standard treatments do not work.