Diagnosis and management of a patient with peripheral ulcerative keratitis: Mooren’s Ulcer versus autoimmune keratolysis

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Abstract:
Peripheral ulcerative keratitis (PUK) results in severe corneal thinning and may lead to descemetocele or perforation. This case report provides clinical presentation and subsequent treatments of a patient with PUK: Mooren’s ulcer versus autoimmune keratolysis.

I. Case History

• Patient demographics – 82 year-old, American Indian, Female

• Initial Chief complaint - The patient complains of redness and moderate pain in the left eye. This onset began one-week prior. The patient is experiencing itchiness and yellow discharge earlier that morning and has a headache from the pain. No over the counter drops or oral medications are being used to relieve the symptoms. The patient denies any recent trauma, surgeries, or infections. In addition, the right eye is sore but otherwise uninvolved. Vision is unaffected. Type II Diabetes Mellitus – uncontrolled per the patient.

• Ocular - Posterior Chamber Intraocular Lenses OU in 2011, Diabetes without ocular complications since 2010

• Medical history – Hypertension, Elevated Cholesterol, Diabetes Mellitus Type II, Dyslipidemia, GERD, Thyroid Mass, Severe Osteoarthritis in hips and is wheelchair bound, Depression, Marked Dependent Edema

• Medications – Levothroid, aspirin, amlodipine, atorvastatin, carvedilol, clonazepam, fenofibrate, fluoxetine, furosemide, glyburide, hydrocodone/APAP, losartan, omeprazole, potassium chloride

II. Pertinent findings

• Clinical – Uncorrected VAs: OD 20/50 and OS 20/150 Super PH 20/50
OD: Mild injection, posterior capsular opacification, otherwise unremarkable
OS: Marginal corneal melt (keratolysis) occurring at 7:00 – 8:30 limbus. Intense limbal inflammation with vascular encroachment across limbus from 6:30 to 10:00 position.
Corneal thinning is largely “clear-base” in nature, and thinning is approximately ¾ of stromal thickness (pachmetry at 228 microns) although endothelial edema is notable throughout nasal cornea. Anterior chamber: deep and quiet. Posterior capsular opacification present.

- Physical – Nodule on the right hand, patient is wheelchair bound, poor hygiene
- Laboratory studies – The 2010 blood panel results show Rheumatoid Factor (RF) within normal range. New blood work has been ordered and awaiting results (ANA, CRP, RF, Vitamin A)

III. Differential diagnosis

- Primary/leading - autoimmune keratolysis
- Others – Other collagen vascular diseases, dellen, keratomalacia, Mooren’s ulcer, infectious or sterile ulcer, or Terrien’s marginal degeneration

IV. Diagnosis and discussion

- Elaborate on the condition – In an autoimmune reaction, antibodies and immune cells target the body’s own tissues. More specifically the corneal tissue can be targeted leading to peripheral ulcerative keratitis and is seen more often when a connective tissue disorder is active and/or long-standing {Melvin I. Roat, September 2014 #1}. Rheumatoid arthritis is the most common etiology, which can lead to an acute ulceration with rapid progression and is often associated with an adjacent episcleritis or scleritis. A more rare etiology of peripheral ulcerative keratitis is Mooren’s ulcer. This ulcer begins peripherally and progresses rapidly but is idiopathic and can only be diagnosed in the absence of an underlying systemic disease {Quan Dong Nguyen, #2}.
- Expound on unique features – This patient has not been previously diagnosed as having an autoimmune disease.

V. Treatment, management {Peter K. Kaiser, 2014 #3}

- Treatment - The best treatment starts with determining and understanding the underlying cause. Lab tests such as CBC, ESR, RF, ANA, ANCA, anti-CCP, BUN, creatinine, urinalysis, and hepatitis C are all valid lab tests that will help with determining the etiology.
• Management - Topical: lubrication, cycloplegic, antibiotic, and collagenase inhibitor. Oral: doxycycline, immunosuppressive agents, and steroids. Corneal melting resolves as the overlying epithelium heals. Severe stages may require lamellar keratectomy with conjunctival resection or a penetrating keratoplasty.

• Case Specific: Day One - treatment for an ulcer included topical fluoroquinolone. Day Five - diagnosis of autoimmune keratolysis and treatment is more aggressive including topical steroid drops, antibiotic ointment, oral doxycycline, and lubrication drops. Monitoring fairly closely to safeguard against further thinning of the lesion. Labs ordered and awaiting results for the following: ANA, CRP, RF, and Vitamin A.

• Response to treatment: Pachmetry has increased from 228 microns to 328 microns in one month. Pain and discharge has subsided. Lesion has decreased in size from >2 millimeters to <1 millimeter.

VI. Conclusion

• Mooren’s ulcer is a diagnosis of exclusion and once the blood work results are returned, a definitive diagnosis will be made and treatment will be adjusted accordingly.

• Clinical pearls— Close monitoring of ulcers is a necessity. Rapidly progressive ulcers can lead to descemetocele and/or perforation; therefore, all preventative measures should be taken.

VII. Additional information

• Slit lamp photos, anterior segment OCT, and topography scans are available

VIII. Bibliography/References