Management of Ocular Manifestations of Severe Uncontrolled Rheumatoid Arthritis

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Abstract

Patients with rheumatoid arthritis (RA), an autoimmune condition, may present with severe ocular complications. Ocular manifestations of RA include keratoconjunctivitis sicca (KCS), peripheral ulcerative keratitis (PUK), corneal changes, episcleritis, scleritis, and retinal vasculitis. Without appropriate medical treatment of the systemic condition, patients are at great risk for ocular complications that may result in permanent vision loss. In patients who are strongly opposed to medical therapy for uncontrolled RA, scleral lenses (SL) can be beneficial as a palliative care option to keep the patient comfortable alongside concomitant follow-up with an ophthalmologist.

Initial Case Presentation

57-year-old-Caucasian male presented for a specialty lens evaluation OU. He reported poor vision and comfort with his habitual SL OD and soft lens OS.

His medical history was significant for:

- Severe RA
- PUK OU
- Corneal melt OU
- KCS OU
- Cataract OD
- Cataract extraction with posterior chamber intraocular lens placement OS

Corneal tomography (figures 1 and 2) illustrated extreme corneal irregularities on sagittal maps and corneal thinning on pachymetry maps. The patient was re-fit into a new pair of SLs.

	OD	OS
Base Curve	43.00D	44.25D
Power	-3.00 DS	+9.75 DS
Overall Diameter	15.8mm	15.8mm
Limbal Curves	2.5 flat, 4 light	6.95, 7.97
Scleral Landing Zone	+1/-7	+2/-3
Material	Optimum Extreme	Optimum Extreme

Vision: 9/10
Comfort: 10/10

Primary goal of regaining functional vision and driving restored

Upon finalization of his SLs, the patient returned with complaints of moderate redness without pain, discomfort or photosensitivity OD. He was diagnosed with scleritis and dexamethasone was initiated. After self-tapering the dexamethasone along with the reluctance to take oral medications, he returned with active inflammation and was prescribed Durezol. Lab work demonstrated high rheumatoid factor (RF) and c-reactive protein (CRP) signifying the need for systemic control. He continued to decline referrals to rheumatology due to a prior negative experience with biologics. Upon resolution of the scleritis, significant thinning of the underlying scleral tissue OD was present. He resumed SL wear and was lost to follow-up.

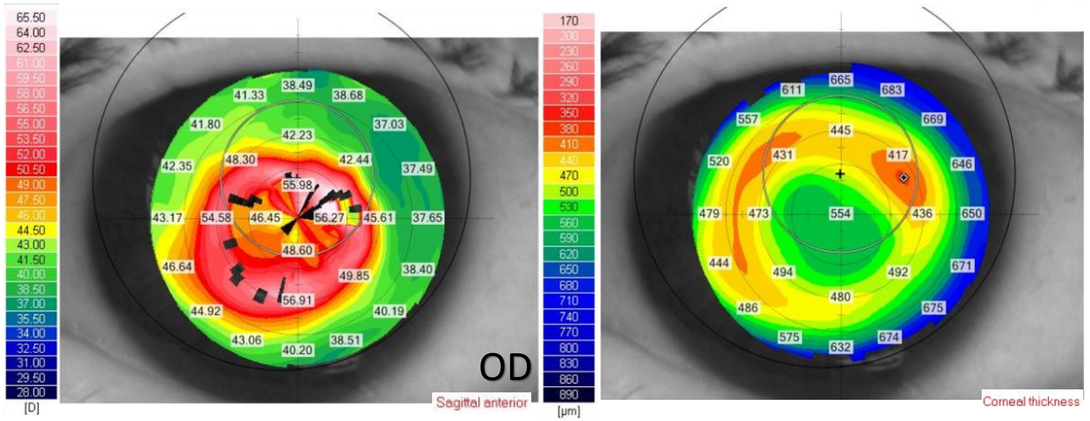

Figure 1: RIGHT EYE TOMOGRAPHY Left image demonstrates severe paracentral and inferior irregularity. Right image demonstrates moderate superior central thinning

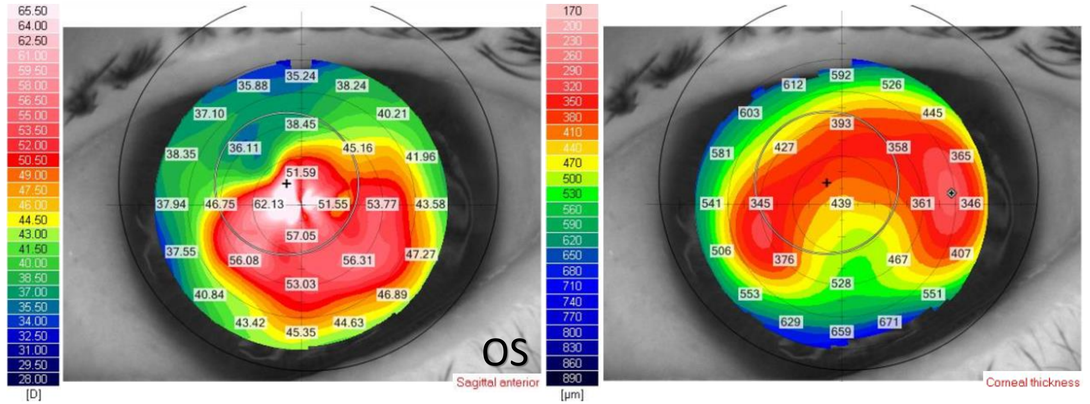

Figure 2: LEFT EYE TOMOGRAPHY Left image demonstrates severe paracentral and inferior irregularity. Right image demonstrates severe superior central thinning

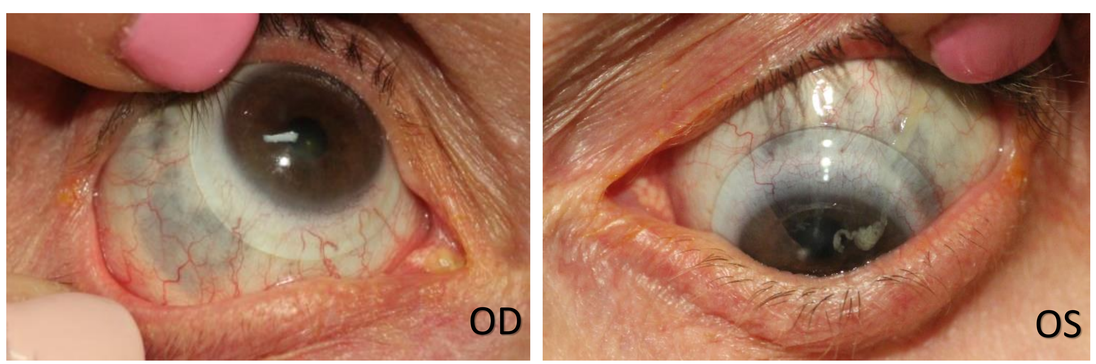

Figure 3: Left and right photographs demonstrate severe scleral thinning with underlying uveal show upon scleritis resolution OU

Follow Up Presentation

Approximately ten months later, he returned with sudden decreased vision, redness, photophobia and pain OS. Prior to this episode, he stated that his quality of life (QoL) had significantly improved with his finalized pair of SLs. He also confirmed that he had been evaluated by rheumatology, but had not returned as he wanted to avoid biologics. Upon examination, he was diagnosed with corneal melt and scleritis OS, and Durezol was re-initiated. It was again highly recommended that the patient re-establish care with a rheumatologist, however he declined due to his reluctance to resume oral medications.

Over the following three months, the patient had several repeat episodes of scleritis OD and OS. Upon resolution, these repeat episodes ultimately resulted in further scleral thinning in both eyes (figure 3). At this time, the patient is being refit in SLs due to the changes in his scleral anatomy. He is being closely monitored by hematology because of a suspicion of a blood dyscrasia with a recommendation against using biologics at this time.

Conclusion

In patients with severe auto-immune disorders, education regarding the importance of medical management with a specialist is vital. However, there may be patients who are opposed to medical therapy. In these patients, it is important to look for ocular complications that may manifest from uncontrolled disease. With these challenging cases, co-management with an ophthalmologist is highly recommended, and topical therapy may be the only patient-accepted means of management. For these cases, palliative management approaches should be considered to improve QoL.

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