Bathing the desert: scleral lenses for a case of Sjogren’s Syndrome related dry eye

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CASE BACKGROUND

- Dry eye syndrome can be classified into two subgroups: Aqueous deficient (ADDE) and Evaporative (EDE)
- Sjogren’s syndrome (SS) is the classic cause of ADDE
- SS is an immune system disorder, typically associated with other autoimmune disorders
- More than 200,000 cases per year in the United States
- The two most common symptoms of SS are dry eyes and dry mouth
- Primary treatment goal for ADDE is to increase tear volume – classically accomplished by increasing tear volume or decrease tear outflow

CASE HISTORY

- SKS, a 69-year-old Caucasian female presented on August 25, 2016 with a chief complaint of severe ocular discomfort and photophobia
- Her history was positive for rheumatoid arthritis (RA), SS related keratitis, filamentary keratitis, and photophobia
- Current ocular medications included: Restasis QID, FML BID, Mucomyst BID, and Maxitrol ung QHS OU; she was also on oral Doxycycline 100 mg daily
- She had recently undergone cataract surgery June 6 (OD) and June 20 (OS) combined with thermal cautery occlusion (TCO) of all four puncta

INITIAL PRESENTATION

- Entering acuities were: OD 20/40 and OS 20/80
- External examination revealed 2-3+ hyperemia of surrounding adnexa (Image 1)
- Slit lamp examination revealed 3-4+ diffuse SPK OU (Image 2)
- Anterior chamber and iris examination were limited secondary to severe keratitis

RESULTS

- SKS was able to discontinue the Maxitrol ung and FML as her symptoms improved; however, she did continue using Restasis and Mucomyst BID
- In the end, SKS reported significant improvement of her symptoms and was able to move about comfortably without wearing multiple pairs of sunglasses and a large brim hat to shade her eyes
- She also reported a significant improvement psychologically, having suffered from depression secondary to her severe discomfort and how it had affected her ability to enjoy life

CLINICAL PEARLS

- The primary goal of treating ADDE is to increase hydration of the ocular surface
- Scleral contact lenses are an excellent treatment option for ADDE by providing a fluid reservoir to constantly bathe the ocular surface (Image 5)
- For patients with severe dry eye, their severe discomfort can greatly affect their daily lives and result in depression; thereby, finding a long term treatment option for those patients can be life changing

SCLERAL LENS FITTING

- SKS was initially fit with an Ampleye Scleral lens from Art Optical on September 2, 2016 which was then finalized over the next three months (Table 1)
- During the fitting process, SKS appreciated improvement in comfort and decreased photophobia

Table 1: Final scleral lens parameters

<table>
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<th>Base Curve</th>
<th>Power</th>
<th>Sagittal Depth</th>
<th>Diameter</th>
<th>Landing Zone</th>
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<td>+4.50 D</td>
<td>4200 microns</td>
<td>16.5 mm</td>
<td>SLZ+6</td>
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<td>+2.25 D</td>
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