



Scleral Contact Lens as the Management for S/P Corneal Transplant from Neurotrophic Ulcer secondary to Adenoid Cystic Carcinoma of Oropharynx Radiation Treatment

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Background:

A 61 year old Caucasian male had a history of left nostril blocked and thick mucus for five years. He was diagnosed with deviated septum allergic rhinitis and chronic sinusitis.

Due to no resolution of symptoms, a MRI was performed and revealed polypoid heterogeneously enhancing mass within the left nasal cavity arising from or adjacent to the middle turbinate now measures 2.8 x 2.1 x 3.2 cm. The mass involved the left medial pterygoid muscle and eroded the medial wall of and extends into the left maxillary sinus, pterygopalatine fossa, cavernous sinus, and left nasopharynx.

There was involvement of the left inferior orbital fissure, foramen ovale and foramen rotundum. The right nasal turbinates are normal with no significant mucosal thickening, polyps, or masses and the septum remains midline.

Surgery was performed to remove the lesion by Ear, Nose, and Throat (ENT) surgeon. Biopsy result showed very advanced local disease of Adenoid Cystic Cancer and staged as T4bN0M0 per ENT Tumor Board.

Patient received chemotherapy and radiation treatment daily for 3 months. This resulted in significant dry eye and neurotrophic ulcer in the left eye (OS). Subsequently, corneal transplant was performed after neurotrophic corneal ulcer perforation.

This patient was referred by ophthalmology corneal specialist for scleral lens fitting. Patient stated that his left eye feels dry all the time and vision is blurry. After radiation treatment, he has reduced tear production and severe dry eye. He was treated with multiple modalities including artificial tears, Restasis, ophthalmic ointments, and Prokera by general ophthalmology without any success.

Ultimately, his dry eye resulted in a neurotrophic corneal ulcer and visual acuity reduced to light perception. After he had corneal perforation, Penetrating Keratoplasty (PKP) was performed OS but vision remained at 20/400 best corrected. He was fitted with Truform G1 scleral lens with resultant visual acuity of 20/25.

Case Report

A 61 y/o, W, M, CC: corneal transplant OS secondary to neurotrophic ulcer from severe dry eye from radiation for Adenoid cystic carcinoma of oropharynx and is here for first visit for contact lens options.

- LEE: 1 week ago with corneal specialist
- Medical History: Severe Dry Eyes, Decreased vitamin D, GERD, Facial pain, Anemia, Early nuclear sclerosis cataract, Insomnia, Cervico-occipital Neuralgia, Malignant tumor of nasal cavity
- No history of ocular trauma
- Hx of surgery: PKP with CE OS, LASIK OU
- Meds: PF 1% qid OS, Maxitrol qhs OS, Serum tears OS

Visit #1:

- BCVA: OD 20/20 OS 20/400 PH 20/100
- EOMS: smooth, no restriction
- Pupils: PERRL (-) APD OD, OS
- Confrontation: FTFC OD, OS
- Anterior segment: 1+ nuclear sclerosis cataracts OU; OD unremarkable; OS PKP with sutures and bandage contact lenses, PC IOL
- Fundus: unremarkable
- Diagnosis: Corneal transplant OS secondary to neurotrophic ulcer from severe dry eye from radiation for Adenoid cystic carcinoma of oropharynx (Figure 1: Topography OD, OS)
- Tx: Fit with Scleral lens OS only Truform G1; Pt scheduled for suture removal with corneal specialist

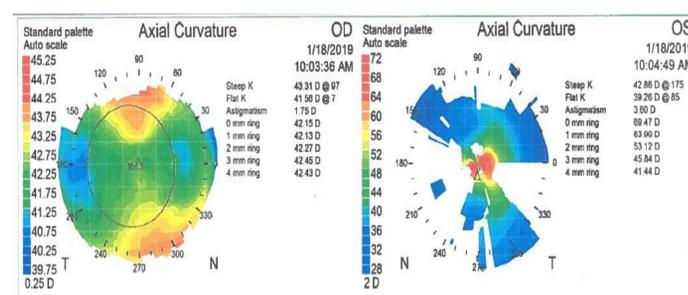


Figure 1 Topography visit #1

Visit #2: 2 MONTHS LATER

- Pt had some PKP sutures removed OS and pt is fitted with diagnostic lens Truform G1
- BCVA: OD 20/20 OS 20/100 PH 20/80
- EOMS: smooth, no restriction
- Pupils: PERRL (-) APD OD, OS
- Confrontation: FTFC OD, OS
- Anterior segment: 1+ nuclear sclerosis cataracts OU; OD unremarkable; OS PKP with sutures and bandage contact lenses, PC IOL
- Diagnostic lens OS only : Truform G1 15.0 BC 7.4 -1.75sph 20/40 to 20/30; adequate vault and no impingement
- Diagnosis: Corneal transplant OS secondary to neurotrophic ulcer from severe dry eye from radiation for Adenoid cystic carcinoma of oropharynx (Figure 1: Topography OD, OS)
- Tx: Ordered Truform G1 15.0 BC 7.4 -1.75sph

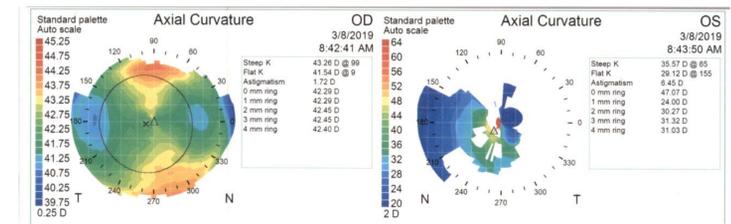


Figure 2 Topography visit #2 after suture removal OS

Visit #3:

- 3 month f/u with scleral lens: No complaints, very happy with vision
- BCVA: OD 20/20 OS 20/30 PH NI
- EOMS: smooth, no restriction
- Pupils: PERRL (-) APD OD, OS
- Confrontation: FTFC OD, OS
- Anterior segment: 1+ nuclear sclerosis cataracts OU; OD unremarkable; OS PKP with sutures, PC IOL
- Diagnosis: Corneal transplant OS secondary to neurotrophic ulcer from severe dry eye from radiation for Adenoid cystic carcinoma of oropharynx
- Tx: Continue Truform G1 15.0 BC 7.4 -1.75sph; Monitor 6 months



Figure 3 Scleral lens

Discussion/Conclusion:

- Scleral lenses are good treatment option for dry eye complications secondary to chemotherapy and radiation treatment.
- Serum tears were used as an off label use to fill the scleral lens reservoir.
- This case demonstrates scleral lenses improve patients vision, prevent blindness, improve patients' lifestyle and wellness.

References and Acknowledgment

Truform scleral lens was chosen based on limited availability of brand options.

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