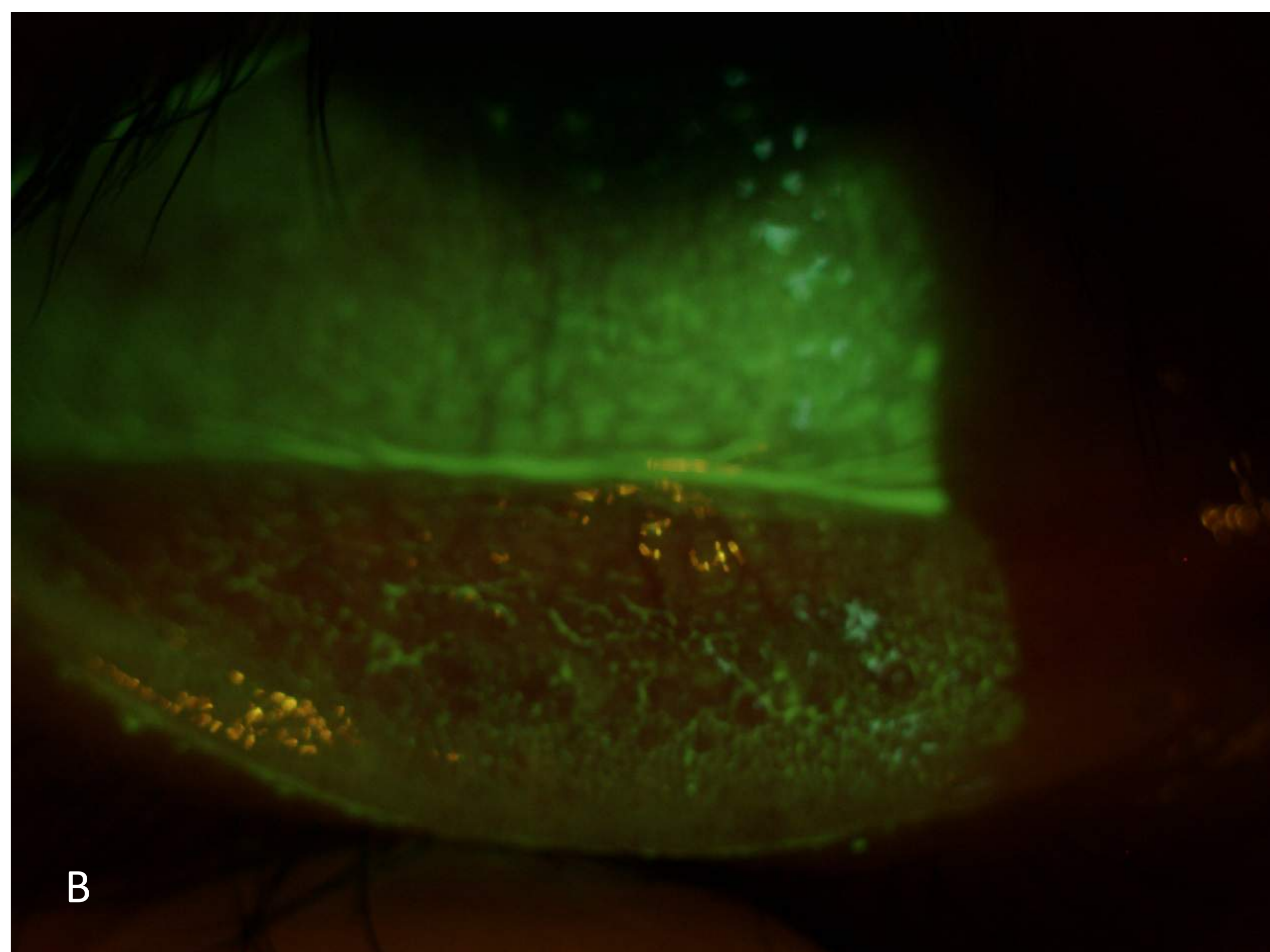
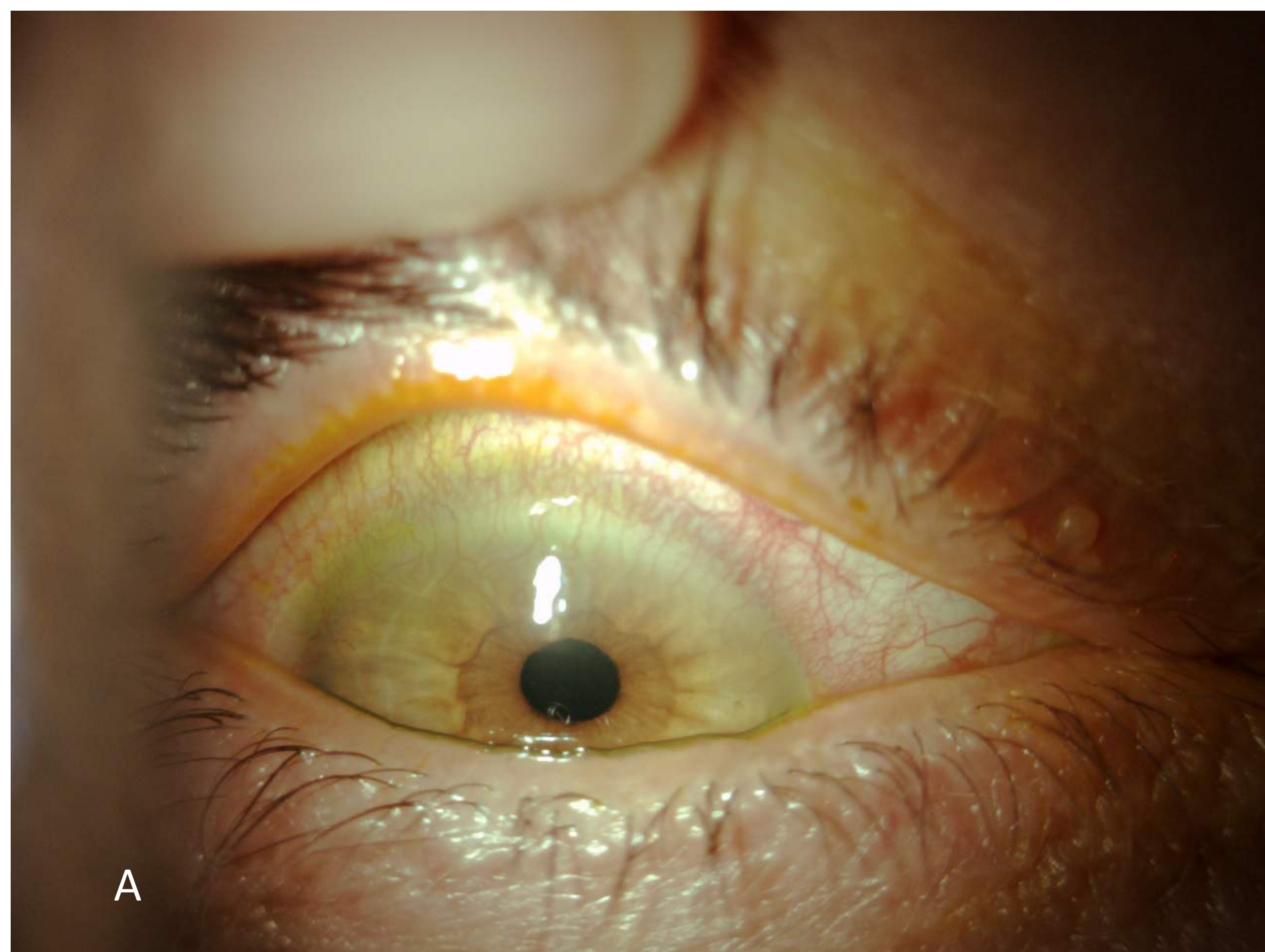


Treatment of Radiation Induced Dry Eye Disease with Scleral Lenses

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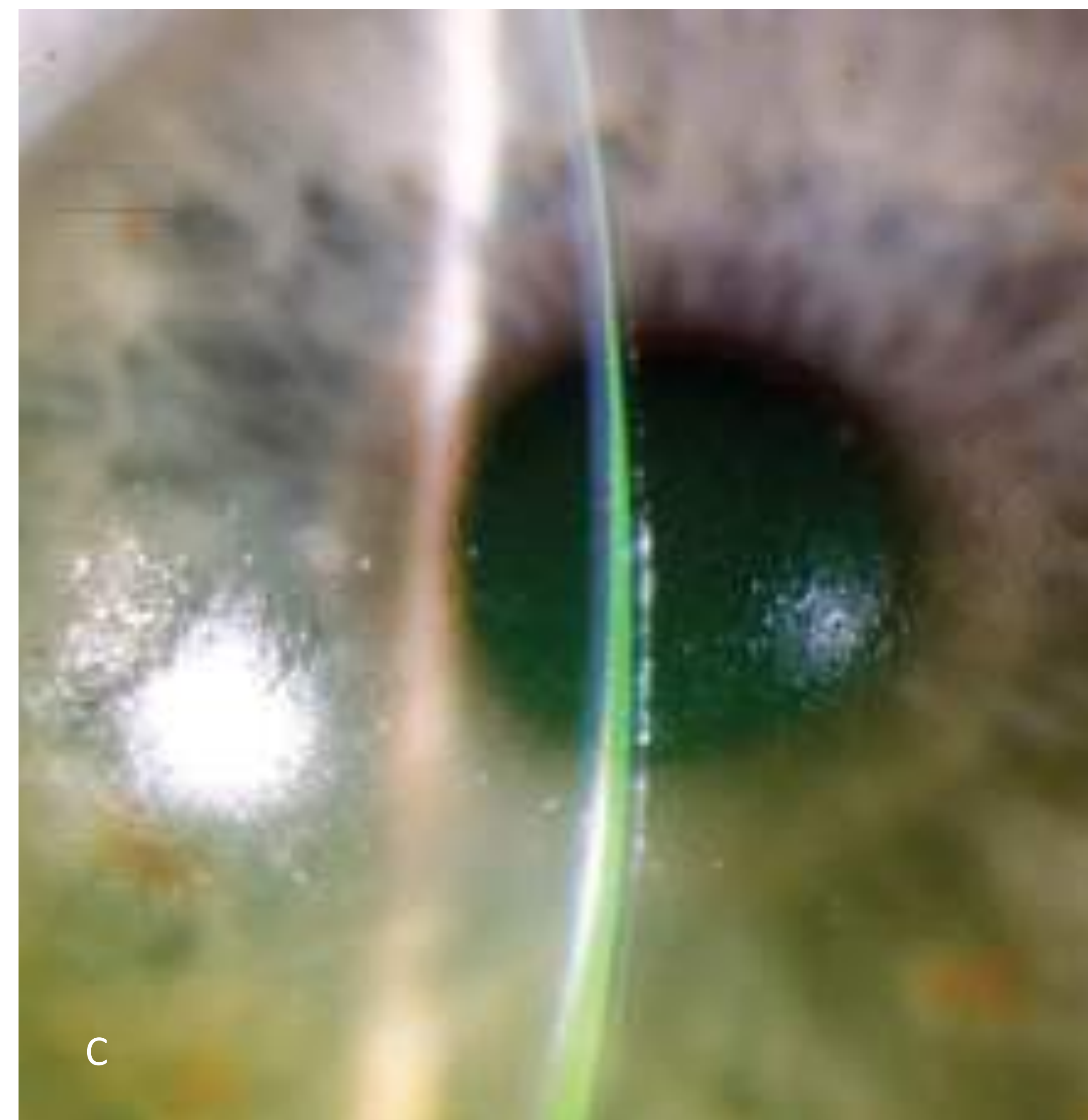
Introduction

Among its myriad side effects, radiation therapy can lead to necrosis and apoptosis of lacrimal cells¹, which in turn leads to inflammation and decreased tear production. This case outlines the successful utilization of scleral lenses for dry eye disease secondary to radiotherapy.



Case Presentation

A 51-year-old male presented to the clinic for a comprehensive eye exam. The patient complained of severe dry eye OU and that his four-year-old scleral lenses had become very bothersome. Medical history was positive for fatigue, dry mouth, occasional migraines, Type 1 Diabetes Mellitus, hormonal dysfunction, and a history of leukemia, which was treated with full body radiation and stem cell transplant. The patient was taking Oxycontin 10mg for pain and 6 insulin shots each day. Ocular history was positive for strabismus surgery as a child. Exam testing revealed uncorrected VAs of 20/50 OD and 20/30-1 OS. Anterior findings were as follows: anterior blepharitis OD, limbal injection OD, superior and inferior corneal neovascularization OU, and moderate injection OU. The patient was instructed to return for a new scleral lens fitting.



Methods & Materials

The patient was fit into a 17.8mm Valley Custom Stable Elite lenses with Optimum Extra material to maximize oxygen transmissibility to the cornea. After two subsequent visits to refine the fit and prescription, lenses were finalized. The patient reported that comfort was much improved with the new scleral lenses and that he was less light sensitive. Vision was improved to 20/25 OD and 20/20 OS.

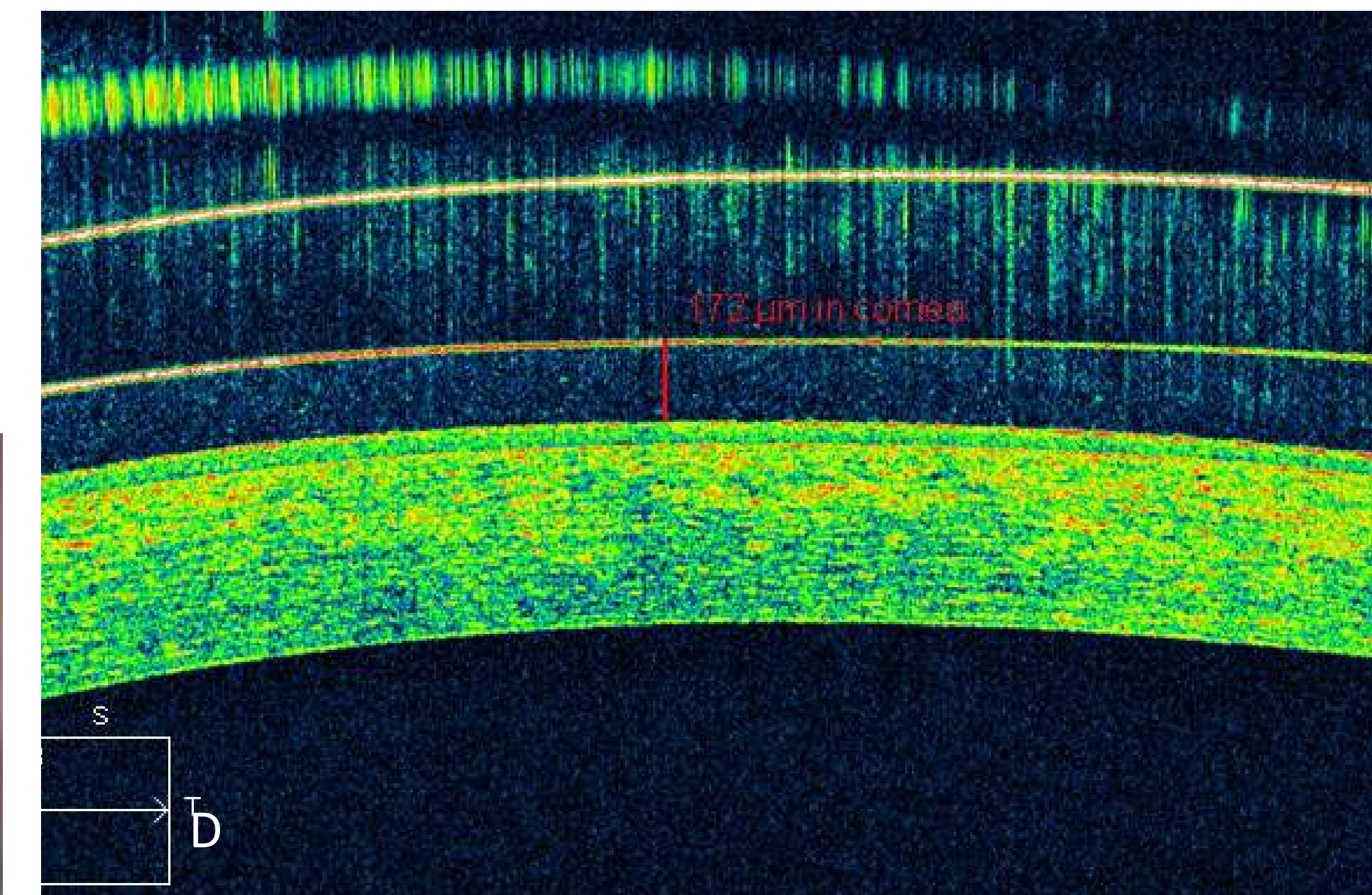


Image A and Image B (far left): External photos at initial examination.

Image C (left): Optic section of the first scleral lens. A subsequent lens was ordered to improve fit and centration.

Image D (above): OCT image showing central clearance of 172µm



Discussion

As the popularity of scleral contact lenses continues to rise, especially in the dry eye arena, it is important to remember that not all dry eye patients are ideal candidates for sclerals. Patients must be screened to determine if sclerals will successfully manage the disease. In this case, the patient had dry eye secondary to a lacrimal deficiency; similar cases, such as patients with Sjogren's Syndrome, appear to be most successful with scleral lenses for dry eye. It is well known that dry eye commonly has multiple contributing factors; Meibomian Gland Dysfunction, Blepharitis, Allergic Conjunctivitis, and other etiologies must be controlled prior to considering scleral lenses for dry eye.

Citation

Kiran T, Aruna T (2015) Diagnosis and Treatment of Radiation Therapy induced Ocular Surface Disorders. OMICS J Radiol 5:e138. doi:10.4172/2167-7964.1000e138

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Contact Information

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