

Scleral Prosthetic Lens

Sergio Ozan*

Director of CEPROC (Centro de Prótesis Oculares y Contactología Especializada), Mendoza, Argentina

***Corresponding Author:** Sergio Ozan, Director of CEPROC (Centro de Prótesis Oculares y Contactología Especializada), Mendoza, Argentina.

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This is a very rewarding case from the professional and humanitarian points of view as the outcome gives an alternative to contactologists to deal with irregular corneas without vision, improving comfort and aesthetics and also helped to improve dramatically the patient's quality of life.

Medical record

51 year-old-patient. In 1982 went to an appointment in an ophthalmological center in San Rafael, a city 450 kilometers south of Mendoza City in the mid-west of Argentina, to consult about an opacity in her right eye. After undergoing several studies, she was diagnosed cornea transplant. This transplant took place in 1983. Three months later the patient rejected the transplant and the cornea lost transparency once again. Towards the end of 1983 she underwent a second surgery with a new cornea transplant.

The second transplant was successful until 1990 when the patient started losing vision and the cornea became whitish. After a short time, her cornea became totally leukomatous and with deformation in the corneal limbus.

As a result, ophthalmologists suggested not insisting with a third transplant and not doing anything else as the tissue was deformed and considered there was no other solution.

Patient

51 year-old-lady did not want to have anything else done in her eye. She did not want to undergo any other treatment as everything had been so painful and frustrating.

For several years, she suffered with her right eye as it continued deforming and it was of great impact for people to see her eye and for herself as well whenever she looked it at in a mirror.

In May 2016 she was really annoyed, upset and angry with her aesthetics so she consulted a new professional. The ophthalmologist told her that her right eye had to be enucleated. She had to do it without delay and gave her an appointment for the surgery for the following week.

The patient walked off the doctor's office devastated and fell into a deep depression. A friend of hers suggested her visiting another professional and encouraged her to go to Mendoza City to consult another Ophthalmologist specialized in orbit so as to have a new opinion.

Fortunately, she accepted. The orbit specialist told her that he would derive her to a specialist in Prosthetic eyes for him to see what could be done, if any, before the surgery.

This was the moment I met the patient. She was derived to my Prosthetic Eye and Specialized Contact Lenses Center. It was a big challenge for me.



Figure 1: *Isophthalmic cornea with double cornea transplant.*



Figure 2: *Protruberant irregular cornea. Front picture.*

First of all I listened to her, told me her experience and gave me an account of her medical record. It is very important for me to have a good rapport with my patients and that they feel confident and comfortable in my office.

After that I examined her right eye. The surface of the cornea was completely irregular and her eye had turned into a keratoglobule with a depression in the temporal area.

There was not any possibility of adapting a prosthetic eye, as the eye had an is ophthalmus keratoglobule. To adapt prosthetic soft lens was not possible either due to the irregularity of her cornea.

I was determined to find a solution for this patient. As my patient, I did not want her eye to be enucleated.

I decided to make a test with a scleral lens. I tried different base curves. My adaptation was as for a keratoglob. I made some tests with fluorescein and the images were very encouraging. The adaptation with the scleral lens was excellent.

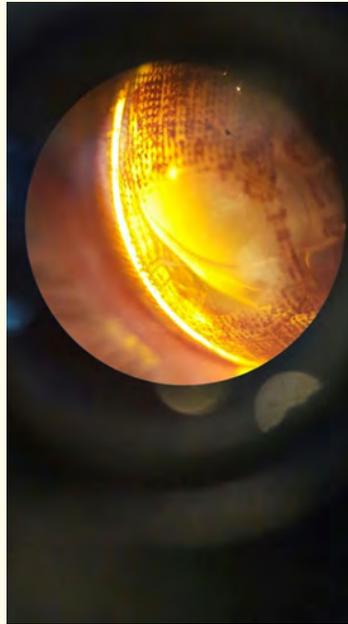


Figure 3: Image with fluorescein of prosthetic scleral lens.

The second step was to improve the aesthetic aspect, so I hand painted a soft lens with black pupil.

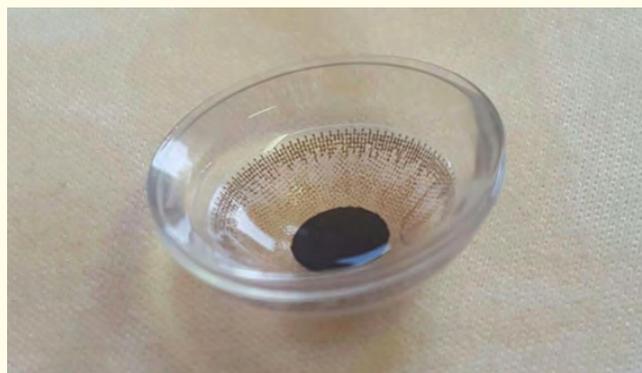


Figure 4: Scleral lens with soft lens with pupil hand painted.



Figure 5: Scleral lens with soft lens with iris and pupil hand painted.

I tried the scleral lens with the hand painted soft lens and there was comfort and good aesthetics.

In order to improve it even more, I painted a second soft lens darker so as to make it as similar as her left eye. The result was excellent.



Figure 6: Scleral prosthetic lens.

Conclusion

The 51 year-old-patient had been 16 years with her leukomatous eye and the corneal tissue deforming gradually.

She had been advised enucleation of the right eye. When she arrived at my Center I adapted a Prosthetic Scleral Lens.

Characteristics of the Prosthetic Scleral Lens

- Brand: Atlantis, X-cell
- Scleral Lens with double flap
- Base curve 7.51 and 17mm of diameter with double flap
- Prosthetic soft lens, hand painted with black pupil, 14.5 of diameter and 8.40 of base curve. Color Brown.

Result

Successful adaptation with a dramatic aesthetic improvement. She wears the lens 10 hours a day. She continues with controls every 4 months. She is in perfect condition.

Now she is not depressed any more. She is very happy with her appearance. She feels socially inserted again. She became a gastro-nomic entrepreneur and started attending university.



Figure 7: Scleral prosthetic lens adapted, improving aesthetics and protruberant cornea.



Figure 8: Final result.

Bibliography

1. 51 year-old-patient with keratoglobe and leukomatic eye. Picture by OC Sergio Ozan (2016).
2. 51 year-old-patient with leukomatic eye after failure of double cornea transplant. Front picture OC Sergio Ozan (2016).
3. Scleral Prosthetic lens in 51 year-old-patient with keratoglobe. Contrast with fluoresceine. Picture by OC Sergio Ozan (2016).
4. Invention of Scleral Prosthetic lens with Atlantis by X-Cel scleral lens and a soft lens with black pupil hand painted. Photo by OC Sergio Ozan (2016).

5. Finished Scleral Prosthetic lens with pupil and iris hand painted in the soft lens. Photo by OC Sergio Ozan (2016).
6. Improved Prosthetic Scleral lens with pupil and iris hand painted in the soft lens, with new details to perfectly match the 51 year-old-patient's healthy eye. Photo by OC Sergio Ozan (2016).
7. Scleral Prosthetic lens finished in 51 year-old-patient. Photo by OC Sergio Ozan (2016).
8. Complete view of the satisfied patient with the Scleral Prosthetic lens. Photo by OC Sergio Ozan (2016).

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