

Aborted Corneal Transplant: Not Once but Twice

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Conclusion

Wearing scleral lenses can delay and even prevent patients with corneal scars from undergoing a corneal transplant. After presenting this case to some corneal specialists, some have already been referring their patients for scleral lens fitting before considering corneal transplants. The trial fitting of scleral lenses should be considered as a double-checking tool and should be part of the protocol of ophthalmologists before scheduling patients for corneal transplants.

Background

25% of corneal transplants in the Philippines is due to corneal scars.¹ Most patients who underwent corneal transplants still need some form of vision correction. The majority will have a high amount of regular or irregular astigmatism.² Delaying corneal transplants is essential especially, in young individuals and in individuals who have recurring conditions. Special-designed contact lenses can help delay corneal transplants.³

This case showed that not all central corneal scars should warrant a transplant. The trial fitting of scleral lenses gave an unexpected visual acuity from a severely scarred cornea.

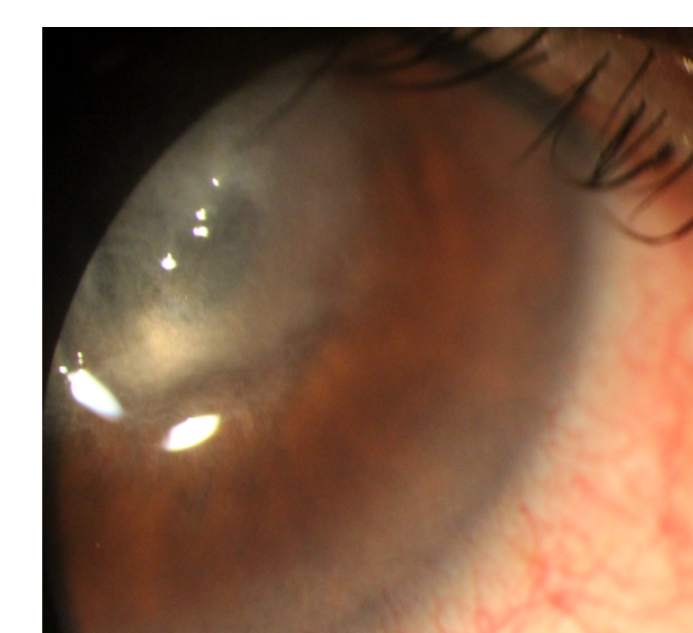
Case Report

A 46-year old man with a history of herpes simplex keratitis OU had his scheduled corneal transplant aborted, not once, but twice. The patient was scheduled for corneal transplants for both eyes with his first corneal specialist. But before the surgery, he inquired about insurance coverage, and so he was transferred to the referring corneal specialist. The 2nd corneal specialist referred the patient for contact lens fitting only for OS, while OD needs to have a transplant.

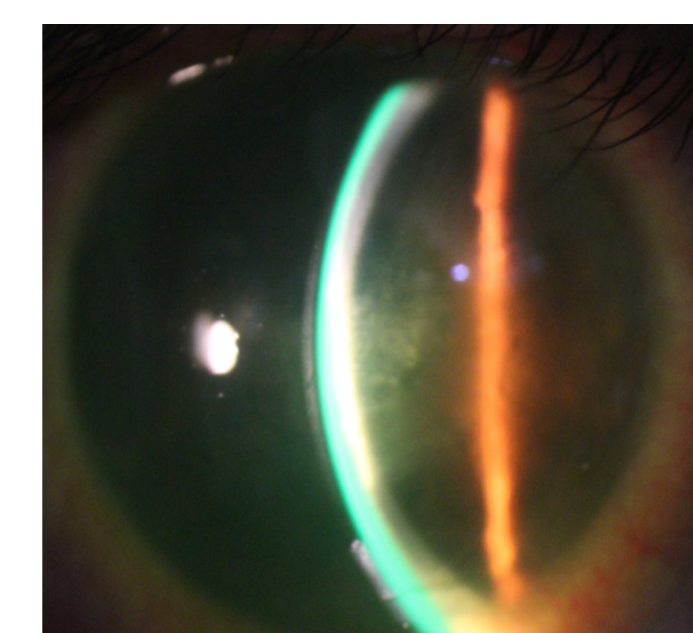
The patient had stromal scarring and fibrosis on OD while descemetocoele on OS. Ultimately, we fitted the patient's OS with a 16.0mm diameter scleral lens, which yielded a 20/25 VA. The patient was happy that the original plan for the corneal transplant of his OS did not push through. A

few weeks after getting his scleral lens, the patient tried to insert the scleral lens on his OD just for curiosity. He was surprised that from just barely seeing forms, his vision improved, and he saw his surroundings. He relayed this to the 2nd corneal specialist, and after rechecking, the patient saw us again for contact lens fitting on OD. The final VA achieved for OD was 20/25 with a 16.0mm scleral lens.

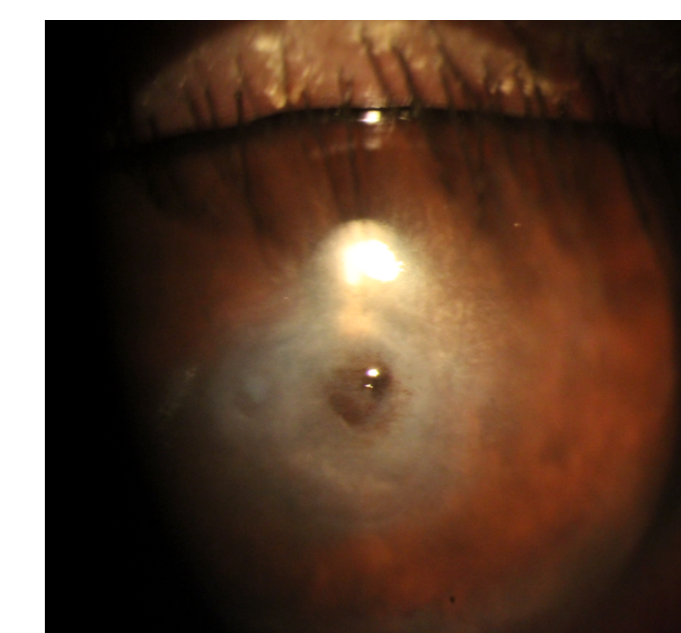
Lens Fitting



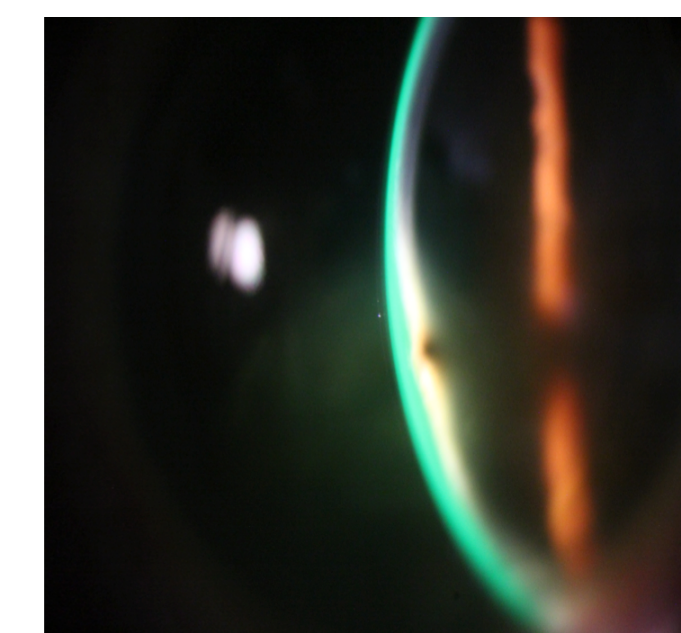
OD
Stromal scarring
Fibrosis



OD
w/ scleral lens
Onefit Med
Sag 4150 Diam 16.0
Rx: +4.50
M: std L: std
Edge: +75/std
VA 20/25



OS
Descemetocoele



OS
w/ scleral lens
Onefit Med
Sag 4350 Diam 16.0
Rx: +3.37
M: Std L: +50
Edge: +50
VA 20/25

Discussion

Corneal transplant is an indication for scarred eyes. While it can give a second chance for many patients to improve their visual function, it also brings about another set of concerns such as significant astigmatism, glaucoma, a constant risk of rejection, epithelial defects, and bacterial keratitis.^{2,4} This patient had corneal scars due to herpes simplex keratitis. Studies show that without prophylactic antiviral treatment, there is a 40% recurrence of HSK after the corneal transplant, which can affect the graft survival rate.⁵ The graft survival rate depends on the indication of the corneal transplant. The Australian Corneal Graft Registry Study found a median survival graft rate of 17 years. The eventual loss of endothelial cells may pose a challenge for corneal grafts to survive longer than 20 years.⁶ Therefore, the younger the patient, the higher the chances of having a repeated transplant done. For most patients, the quality of life

has improved after undergoing a corneal transplant. However, when both eyes were transplanted, and with the presence of post-surgical high astigmatism, the score on the NEI VFQ-25 for the socioemotional function was less.^{7,8} Depression and anxiety were noted in patients who needed to use higher dosage of prednisolone post-surgery.⁹ Some patients thought that having a corneal transplant can solve their vision problems. However, because of the presence of simple ametropia, high regular or irregular astigmatism, and anisometropia, they may still need to be fitted with contact lenses.¹⁰ Because of the above concerns, it is imperative that ophthalmologists consider referring their patients who are corneal transplant candidates to try customized specialty lenses first to exhaust all non-surgical options first. Scleral lenses have been proven to delay the need for corneal transplants. Contact lens practitioners who fit specialty contact lenses should fill the gap in the field, making sure that ophthalmologists are aware of the availability of scleral lenses as options for providing good vision for patients with irregular and scarred corneas.

References

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