The Role of Scleral Lenses in the Treatment of Corneal Irregularity and Ocular Surface Disease

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INTRODUCTION

Scleral lenses are prescribed for refractive error, corneal irregularity and ocular surface disease. Although scleral lenses are being prescribed for a variety of indications, there is no established protocol for their placement in the overall management of ocular disease.

METHODS

STUDY DESIGN

- A 21-question online survey was sent via e-mail to eye care providers with self-identified interest in contact lens prescription and management.
- 4,633 eye care providers received invitations to participate.
- The survey was available from 1/15/2015 through 3/1/2015.
- The survey was administered by the Mayo Clinic Survey Research Center.
- The Mayo Clinic Survey Research Center collated and deidentified the data prior to analysis.

DISCUSSION

Corneal irregularity has traditionally been managed with spectacles, contact lenses or surgery depending on the severity of the disease with a corneal gas permeable being the lens of choice for visual improvement. Although our survey found most practitioners prescribe a corneal gas permeable lens first, more than a third report using a scleral lens as their initial correction for corneal irregularity. A review of 92 patients with keratoconus fit with scleral lenses found median best-corrected visual acuity improved from 20/60 to 20/20 after scleral lens fitting. Scleral lenses are recommended as an important step in improving patient comfort, supporting the ocular surface as well as improving visual acuity.

RESULTS

MANAGEMENT OF CORNEAL IRREGULARITY

Figure 1: 44% of respondents reported that they consider corneal RGP’s their first choice for optical correction of corneal irregularity, and 90% ranked corneal RGP’s as their first, second, or third choice. Scleral lenses were reported as the first option considered by 34.5% of respondents and 81.1% ranked scleral lenses as their first, second or third choice. Hybrid lenses were reported as first, second or third choice by 42.1%, followed by custom hydrogels (39.3%).

MANAGEMENT OF OCULAR SURFACE DISEASE

Lubricant drops were identified as the first therapeutic intervention by 84% of respondents and as first, second, or third choice by 95% of respondents. Tocartherapy was reported as one of the last three options by 82.3% of respondents.

REFERENCES


CONCLUSIONS

- Corneal gas permeable lenses are the most commonly prescribed optical correction for corneal irregularity; however, scleral lenses are being prescribed as the initial correction by more than a third of prescribers in this cohort.
- Scleral lenses are also being prescribed for ocular surface disease after topical lubricants, topical steroids, topical cyclosporine and punctal occlusion.

SUPPORT