Toric Haptics in Scleral Lens Design: A Case Series

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PURPOSE
To describe two cases in which the incorporation of toricity on the posterior surface of the haptic improved scleral lens fit and comfort.

CASE #1
- 44-year-old Caucasian male
- Ocular History
  - Keratoconus, both eyes
  - S/P penetrating keratoplasty, both eyes
  - Previous graft rejection, left eye
  - Attempts to wear corneal RGP’s were unsuccessful due to lack of comfort.
- Refractive Status/Visual Acuity
  - OD: -7.25+1.50X160, 20/20
  - OS: -12.25+8.75X152, 20/20
- Significant asthenopia with this correction due to anisometropia

BACKGROUND
- Most scleral lens designs that are commercially available in the US feature spherical haptics.
- In normal eyes, the sclera is not spherical. (1)
- Most common anterior scleral shape is tangential, rather than convex.
- Anterior scleral contour is not rotationally symmetric.
- Quadrant-specific differences in scleral contour increase in magnitude as the distance from the limbus increases.
- Furthermore, scleral contour may be altered in eyes that have undergone surgical procedures (ie, penetrating keratoplasty, radial keratotomy, scleral buckling procedures).
- Scleral lenses (18.0 mm or larger) with spherical haptics may not align well with the conjunctival tissue overlying the sclera beneath the landing zone, and may cause focal impingement of conjunctival vasculature (See Figure 1).
- Scleral lenses with toric haptics may provide better comfort (2) for patients with significantly irregular anterior scleral contour.

CASE #2
- 38-year-old Asian male
- Ocular History
  - Keratoconus, both eyes
  - S/P penetrating keratoplasty, both eyes
  - Previous graft rejection, left eye
  - Attempts to wear corneal RGP’s were unsuccessful due to lack of comfort.
- Refractive Status/Visual Acuity
  - OD: -3.50+7.00X147, 20/200
  - OS: -1.25+0.75X005, 20/20
- Significant asthenopia with this correction due to anisometropia

REFERENCES

SUPPORT
None (All Authors)

DISCLOSURE
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