Clinical Management of RGP induced lens indentation and Fischer-Schweitzer corneal mosaic using piggy-back system in an advanced Keratoconus patient: A case report

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Abstract:
A 21-year-old Chinese male, PWP, was referred to our optometry clinic for eye examination and contact lens fitting due to keratoconus. Anterior eye examination revealed advanced keratoconus with cornea scarring in right eye and moderate keratoconus in left eye.

The patient was fitted with multi-curve design rigid keratoconic lens for both eyes and an acceptable fitting pattern as well as visual performance can be achieved. However, significant Fischer-Schweitzer corneal mosaic and indentation ring were found in both eyes during subsequent after-care visits. Concerning about his ocular health, he was then refitted with piggy-back system. Significant reduction of indentation ring and the Fischer-Schweitzer corneal mosaic were found. The lens fitting and corneal health were optimal during the subsequent aftercare consultations.

Soft contact lens in piggy-back system can provide a cushioning effect for reducing mechanical and negative pressure on corneal surface from RGP lens due to thick and uneven tear lens. Although the Fischer-Schweitzer corneal mosaic may not have severe clinical significances, for patient with compromised cornea, especially advanced keratoconus, piggy-back system would be beneficial to those patients in order to avoid further corneal insult.