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Posters

Custom intrastromal pocket creation for the insertion of the XENIA™ Lenticule for management of keratoconus and post-LASIK ectasia

Poster Details

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Abstract Details

Purpose:

Surgical options for the management of keratoconus and post-LASIK ectasia include corneal transplantation and corneal reshaping. Corneal reshaping can be done using ring segments or a donor lenticule - Stromal Lenticule Addition Keratoplasty (SLAK). A form of SLAK using a XENIA™ lenticule (a biocompatible stiffened corneal lenticule of porcine origin) has been developed and we described the parameters of the custom femtosecond pocket used for its insertion.

Setting:

New Cross Hospital, UK Optimax, UK

Methods:

An IntraLase femtosecond laser was used to create a custom corneal stromal pocket of 100µm depth using a raster scanning pattern. A circular pocket of 8.7mm diameter with a 3.7 mm access tunnel was created. The pocket was designed so it would accept a 120µm 7.2mm diameter XENIA™ lenticule. Spot separation was set at 6 µm and total energy used was 0.85 µJ for the lamella cut.

Results:

Once formed, the pocket was opened successfully with a LASIK flap lifter. The design of the pocket allowed the XENIA™ lenticule to be successfully implanted without the use of sutures. In the six patients who underwent this procedure there were no flap complications and no dislocations of the lenticule. One patient had some interface haze which settled with topical steroids.

Conclusions:

This custom stromal pocket allows for the successful insertion of the XENIA™ lenticule without any significant adverse events. With only a 3.7 mm full thickness incision, maximal corneal integrity is maintained and flap complications are absent. We will continue using this pocket formation for future patients undergoing this procedure.

Financial Disclosure:

None