



Fondazione
Cottino

Corneal Collagen Crosslinking (CXL) with Pachymetric and Altimetric Guided UV-A Release

Project Code: MT.CXL.PAGUR 2.0

DESCRIPTION:

Development of a new advanced therapeutic biomedical device for customized Pacho-Altimetric Guided Corneal Collagen Crosslinking to prevent corneal ectasia progression (keratoconus and secondary ectasias) with contemporary visual improvement, avoiding corneal transplants.

ABSTRACT:

Design : open perspective non-randomized phase III clinical study.

Phase a. determination of the minimum optimal UV-A energy dose (370 nm wave-length) to induce corneal stiffening and surface reshaping in order to stabilize the ectasia and improve or stabilize visual acuity, without affecting endothelium, lens and retinal structures, avoiding or reducing the necessity of donor corneal transplant.

Phase b: developing a treatment “nomogram” based on patients preoperative pachymetry and altimetry data and different UV-A power settings and energy doses delivered for the personalized treatments.

End-point: Transfer the original idea to Ophthalmic Industry for the development of a new therapeutic crosslinking biomedical device for predictable increasing of the elasticity module of the cornea at the desired value through a controlled energy-dose release, obtaining a customized stabilizing and functional treatment.