

Ophthalmology

OCULAR SURGERY NEWS

New cross-linking protocol, device may help fight infectious keratitis on a global scale

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LISBON, Portugal — An optimized treatment protocol, a miniaturized device that mounts on a slit lamp and a new photosensitizing agent may allow for a faster and more effective application of cross-linking for infectious keratitis in the near future.

Cross-linking for infectious keratitis, now called PACK-CXL for photoactivated chromophore for keratitis-CXL, disinfects the corneal surface via reactive oxygen species and increases the resistance to enzymatic digestion by modification of the collagen structure.

PACK-CXL has been tested in a phase 2 randomized clinical trial, and results were recently published in *Ophthalmology*. Farhad Hafezi, MD, PhD, principal investigator, said at the Controversies in *Ophthalmology* meeting that the first results are encouraging. PACK-CXL has comparable efficacy to medications, a similar healing time and a lower complication rate.

To be used on a large scale and treat patients in areas of the world where infectious keratitis is a major health issue, PACK-CXL needs to get out of the operating room, become cheaper and faster, and be accessible to all ophthalmologists.

Hafezi is currently testing a new chromophore that kills 99.9% of the pathogens with an irradiation of 120 seconds. His spin-off company, EMAGine AG, is developing a compact cross-linking device that will attach to the slit lamp for easy treatment.

Farhad Hafezi

"The C-Eye will have a consumable tip with two different irradiation profiles to treat either infectious keratitis or keratoconus. We are planning to significantly accommodate the pricing structure in order to make the procedure available even in the poorest of areas of the world, where currently no treatment is provided due to economic reasons," Hafezi said.

Reference:

Said DG, et al. Ophthalmology. 2014;doi:10.1016/j.ophtha.2014.01.011.

Disclosure: Hafezi is the named co-inventor of PCT/CH 2012/000090 application (UV light source) and chief scientific advisor to EMAGine SA/AG.