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**SMILE FOR CORNEAL SCAR**

Stromal lenticule implantation may reduce recurrence of herpetic keratitis. Roibeárd O’hÉineacháin reports from the ESCRS Virtual Winter Meeting 2022.

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Stromal lenticule implantation may reduce recurrence of herpetic keratitis.

Roibeárd O’hÉineacháin reports from the ESCRS Virtual Winter Meeting 2022.

In patients with chronic recurrence of herpetic keratitis, removing a corneal scar with small lenticule extraction (SMILE) procedure and replacing it with a healthy lenticule of equal volume from a donor undergoing a myopic SMILE procedure can restore corneal clarity, improve vision, and may also reduce the likelihood of further recurrence of the condition, reported Anita Syla Lokaj MD, ophthalmologist at Eye Hospital in Kosovo.

At a Cornea Day session, Dr Syla Lokaj described the case of a 45-year-old male patient who underwent a tissue extraction procedure for recurrent herpetic keratitis in his right eye. Prior to surgery, the eye’s corneal thickness—as measured by anterior segment optical coherence tomography (AS-OCT)—and decimal visual acuity were 0.1. AS-OCT also revealed the presence of dead keratinocytes within the scar tissue.

The herpetic keratitis patient and the patient undergoing refractive SMILE surgery underwent their surgery on the same day by Dr Faruk Semiz. The donor patient underwent the usual serology tests to ensure the absence of any transmissible disease. The extracted donor lenticule were placed in BSS solution for five minutes. The surgeon then prepared the stromal pocket with the femtosecond laser and implanted the lenticule through a side-pocket incision. The lenticule was over 100 μm in thickness to include live keratinocytes.

At a follow-up of 36 months, the cornea thickness remained stable, and slit-lamp biomicroscopy showed good organisation of collagen fibres. Corneal topography also showed a beneficial decrease in improvement in keratometric values. In addition, by three months, decimal visual acuity improved to 0.3 and by six months, it had improved further to 0.5 and has since remained stable throughout follow up.

“The stromal haze has cleared, and at a follow-up of three years, we detected no sign of recurrence of herpetic keratitis. We implanted the donor lenticules with live keratinocytes not only in this case but in all cases so they could produce collagen. We have found good transparency of the cornea in all the [patients] in which we have performed this procedure,” Dr Syla Lokaj said.

She noted herpetic eye disease is the most common infectious cause of corneal blindness in developed countries and accounts for 60% of corneal ulcers in developing countries, affecting 10 million people worldwide. In addition, the rate of ocular recurrence after one episode is about 10% at one year and 50% at 10 years. And although oral acyclovir reduces the risk of any form of recurrence of ocular herpes by 41% and stromal keratitis by 50%, it still leaves a lot of patients with recurrences. Moreover, acyclovir’s protective effect does not persist after withdrawal of the treatment.

“Our early findings suggest [using] corneal stromal lenticules with stromal stem cells and live keratocytes [can] be a safe and Schematic representation of the diameter of the lenticule to be implanted, the diameter of the intrastromal pocket, incision width, and the implanted position of the lenticule in the recipient cornea. efficient surgical treatment for stromal scar after herpetic keratitis. This is a relatively simple and low-cost procedure that offers advantages over corneal transplantation as a definitive procedure in the treatment of this disease,” Dr Syla Lokaj concluded.

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