Automated lamellar therapeutic keratoplasty with fibrin adhesive in the treatment of anterior corneal opacities.

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Abstract:

PURPOSE: To assess the visual outcome of using fibrin adhesive in automated lamellar therapeutic keratoplasty with a microkeratome in the treatment of anterior corneal opacities.

METHODS: In this prospective noncomparative clinical trial, surgery was done on 10 eyes belonging to 9 patients with anterior stromal opacity (macular dystrophy, spheroidal degeneration, scarring because of advanced recurrent pterygium, refractive surgery, or trauma). Depending on the depth of the opacity, a 130- or 250-mum flap was removed from the recipient cornea using a microkeratome. Then, a thin layer of fibrin adhesive was spread over the bed, and a lenticule with the same thickness, created from the donor cornea, was positioned in place. After allowing the glue to set for about 5 minutes, a bandage contact lens was placed over the cornea, which was removed 7-10 days postoperatively.

RESULTS: All corneas healed properly, and none required suturing or reoperation. During the follow-up period, no inflammation or rejection was observed. The donor cornea and the donor-recipient interface remained clear in all cases. The mean of best contact lens-corrected visual acuity improved from 1.14 +/- 0.53 to 0.51 +/- 0.23 in the logarithm of the minimum angle of resolution scale.

CONCLUSIONS: The fibrin glue can provide safe and effective attachment needed in automated

lamellar therapeutic keratectomy and obviates the need for suturing. However, it requires improvement for easier and safer use in ophthalmology.