

Clinical Outcomes of Sterile Cornea Allograft in Glaucoma Surgery

S.D. Lawrence¹, P.A. Netland². ¹Ophthalmology, Hamilton Eye Institute, University of TN, Memphis, TN; ²Ophthalmology, The University of Virginia, Charlottesville, VA.

Purpose: To describe surgical applications and clinical outcomes of sterile, irradiated cornea allograft in glaucoma surgery.

Methods: This was a retrospective interventional noncomparative case series. We reviewed 10 consecutive patients who underwent primary or secondary glaucoma surgery using sterile cornea allograft (VisionGraft, Tissue Banks International, Memphis, TN) for tectonic purposes. Data collected from patient medical records included age, gender, surgical technique, indications for surgery and thickness of the cornea allograft. Primary outcomes were biocompatibility and need for revision of the allograft.

Results: Ten eyes of 10 patients (gender=5m/5f, mean age 47) were treated with sterile, irradiated cornea allograft. Mean follow-up was 10 months (range, 8.2 - 12.6 months). The allograft was used for coverage of a primary glaucoma tube shunt in 3 patients, coverage of a revised or repositioned glaucoma tube shunt in 5 patients, tectonic support of a revised trabeculectomy flap in 1 patient, and coverage of subconjunctival prolene sutures following a surgical iridoplasty in 1 patient. Indications for surgery included: exposed glaucoma tube shunt (N=3); elevated intraocular pressure (N=3); hypotony (N=2); glaucoma tube shunt with corneal touch (N=1) and traumatic iridodialysis (N=1). Allografts were either full-thickness (N=5) or split-thickness (N=5). No case required revision of the allograft. The allografts demonstrated good biocompatibility in all 10 cases during the follow-up period evidenced by maintained clarity of the corneal tissue, absence of clinical signs of immunologic rejection or ocular inflammation, and integrity of the sterile cornea and the conjunctiva over the graft. Cosmetic results were excellent, and there were no complications during the follow-up period.

Conclusions: Sterile, irradiated cornea allograft is safe and effective when used for tectonic support in glaucoma and anterior segment surgical procedures. Our results suggest advantages of sterile cornea allograft for coverage of glaucoma drainage implant tubes, including tissue transparency, resilience, and ease of surgical use. CR: S.D. Lawrence, None; P.A. Netland, None.

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