Control of Intraocular Pressure After Ahmed Valve Implant in Patients With Penetrating Keratoplasty. A Retrospective Ten-Year Study.

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Purpose: Penetrating keratoplasty (PK) is the most common type of transplant practiced worldwide. Secondary glaucoma is one of the most common ocular complications and represents an important cause of graft failure due to uncontrolled intraocular pressure (IOP). We performed a retrospective, observational, clinical study to evaluate the incidence of corneal graft survival after Ahmed valve implant (AVI) and IOP control in patients with PK in a ten-year period. Methods: 445 electronic files from January 2001–December 2011 of patients with diagnosis of “penetrating keratoplasty” and “ocular hypertension” or “glaucoma” and a minimum 6-month follow up were reviewed. Data was collected on a database chart. Out of 95 patients with AVI, 56 met the final inclusion criteria and were included for the study. Results: Mean age was 46.9 years. 51% male. 38 valves in right eyes and 18 left eyes. The causes of PK were by frequency: keratoconus, pseudophakic bullous keratopathy, infectious keratitis, corneal dystrophies, trauma and radial keratotomy. Initial and final visual acuity were 20/1500 (LogMar -1.53) and 20/800 (LogMar-1.46). Average preoperative and postoperative IOP were 30.94 and 17.15 mm Hg. Our study reports success of IOP control in 78.6% of the cases (44 eyes) and 50% graft survival (average follow-up 82.39 months). Conclusions: The cause of keratoplasty played an important role for graft survival. Some identified risk factors were anterior sinequiae and previous diagnosis of glaucoma whereas age, gender or phakic status were not statistical significant. Control of IOP is not the only factor involved in graft survival.