The 5-Year Incidence of Bleb-Related Infection and Its Risk Factors after Filtering Surgeries with Adjunctive Mitomycin C: Collaborative Bleb-Related Infection Incidence and Treatment Study 2

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PURPOSE: To report the 5-year incidence of bleb-related infection after mitomycin C-augmented glaucoma filtering surgery and to investigate the risk factors for infections.

DESIGN: Prospective, observational cohort study.

PARTICIPANTS: A total of 1098 eyes of 1098 glaucoma patients who had undergone mitomycin C-augmented trabeculectomy or trabeculectomy combined with phacoemulsification and intraocular lens implantation performed at 34 clinical centers.

METHODS: Patients were followed up at 6-month intervals for 5 years, with special attention given to bleb-related infections. The follow-up data were analyzed via Kaplan-Meier survival analysis and the Cox proportional hazards model.

MAIN OUTCOME MEASURES: Incidence of bleb-related infection over 5 years and risk factors for infections.

RESULTS: Of the 1098 eyes, a bleb-related infection developed in 21 eyes. Kaplan-Meier survival analysis revealed that the incidence of bleb-related infection was 2.2±0.5% (cumulative incidence ± standard error) at the 5-year follow-up for all cases, whereas it was 7.9±3.1% and 1.7±0.4% for cases with and without a history of bleb leakage, respectively (P = 0.000, log-rank test). When only eyes with a well-functioning bleb were counted, it was 3.9±1.0%. No differences were found between the trabeculectomy cases and the combined surgery cases (P = 0.398, log-rank test) or between cases with a fornix-based flap and those with a limbal-based flap (P = 0.651, log-rank test). The Cox model revealed that a history of bleb leakage and younger age were risk factors for infections.

CONCLUSIONS: The 5-year cumulative incidence of bleb-related infection was 2.2±0.5% in eyes treated with mitomycin C-augmented trabeculectomy or trabeculectomy combined with phacoemulsification and intraocular lens implantation in our prospective, multicenter study. Bleb leakage and younger age were the main risk factors for infections.

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