

# 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  $2.2\pm 0.5\%$  (cumulative incidence  $\pm$  standard error) at the 5-year follow-up for all cases, whereas it was  $7.9\pm 3.1\%$  and  $1.7\pm 0.4\%$  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  $3.9\pm 1.0\%$ . 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  $2.2\pm 0.5\%$  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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