

## Outcome of Dacryocystorhinostomy with Peroperative Local Use of Mitomycin-C

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**Abstract :** Background: Dacryocystorhinostomy (DCR) has been a widely accepted surgical intervention for nasolacrimal duct obstructions. Some previous studies demonstrated the potential benefits of the peroperative application of agents like Mitomycin-C (MMC) with DCR to improve surgical outcomes. Relevant studies are rare in Bangladesh, and there are controversies about the dose, duration of MMC, and outcome. Therefore, the present study aimed to investigate the comparative efficacy of DCR with and without MMC in a tertiary hospital in Bangladesh. Objective: The study aims to determine the outcome of a dacryocystorhinostomy with preoperative local use of mitomycin-C. Methods: An analytical study was conducted in the Department of Ophthalmology, Sir Salimullah Medical College & Mitford Hospital, Dhaka, from January 2023 to September 2023. Seventy patients who were admitted for DCR operation were included according to the inclusion and exclusion criteria. Patients were divided into two groups: those who underwent DCR with peroperative administration of 0.2 mg/ml Mitomycin-C for 5 minutes (Group I) and those who underwent DCR alone (Group II). All patients were subjected to detailed history taking, clinical examination, and relevant investigations. All patients underwent DCR according to standard guidelines and ensured the highest peroperative and postoperative care. Then, patients were followed up at 7th POD, 1-month POD, 3 months POD, and 6 months POD to observe the success rate between the two groups by assessing tearing condition, irrigation, height of tear meniscus, and FDDT- test. Data was recorded using a pre-structured questionnaire, and collected data were analyzed using SPSS 23. Results: The mean age of the study patients was  $42.17 \pm 6.7$  (SD) years and  $42.29 \pm 7.1$  (SD) years in Groups I and II, respectively, with no significant difference ( $p=0.945$ ). At the 6th month's follow-up, group I patients were observed with 94.3% frequency of symptom-free, 85.6% patency of lacrimal drainage system, 68.6% had tear meniscus  $<0.1$ mm and 88.6% had positive Fluorescence Dye Disappearance Test (FDDT test). In group II, 91.4% were symptom-free, 68.6% showed patency, 57.1% had a height of tear meniscus  $< 0.1$  mm, and 85.6% had FDDT test positive. But no statistically significant difference was observed ( $p<.05$ ). Conclusion: The use of Mitomycin-C preoperatively during DCR offers better postoperative outcomes, particularly in maintaining patency and achieving symptom resolution with more FDDT test positive and improvement of tear meniscus in the MMC group than the control group. However, this study didn't demonstrate a statistically significant difference between the two groups. Further research with larger sample sizes and longer follow-up periods would be beneficial to corroborate these findings.

**Keywords :** dacryocystorhinostomy, mitomycin-c, dacryocystitis, nasolacrimal duct obstruction

**Conference Title :** ICOCD 2024 : International Conference on Ophthalmology and Corneal Diseases

**Conference Location :** New York, United States

**Conference Dates :** June 03-04, 2024