LETTER TO THE EDITOR

Mitomycin-C in soaked sponge or sub-tenon injection during trabeculectomy: The better option

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Dear Editor, I am writing to contribute to the ongoing discourse regarding the optimal technique for mitomycin C (MMC) application during trabeculectomy, an essential surgical intervention for the management of glaucoma. The challenge of maintaining long-term filtration success following trabeculectomy has long been addressed by the adjunctive use of antimetabolites, notably MMC, which inhibit postoperative subconjunctival fibrosis. While the conventional method of applying MMC via soaked sponges has demonstrated significant efficacy,[1] it is not without inherent risks, including inconsistent drug delivery, potential for excessive localised tissue toxicity, and the rare but serious complication of retained sponge material.

In recent years, sub-Tenon injection of MMC has emerged as a promising alternative, offering theoretical and practical advantages. The study conducted in the year 2020 rigorously compares these two methods, finding that intraocular pressure (IOP) reduction and overall surgical success rates are statistically comparable between sponge application and sub-Tenon injection.[2] The study published in the British Journal of Ophthalmology in 2017 corroborates these findings, highlighting that the sub-Tenon method not only achieves similar efficacy but also results in blebs with more diffuse and less vascularised morphology—attributes associated with a lower risk of late-onset bleb-related infections and improved long-term outcomes.[3]

Furthermore, sub-Tenon injection circumvents certain technical challenges inherent to the sponge technique.[4] It ensures a more uniform and controlled distribution of MMC, minimises direct handling of the ocular tissues, reduces operative time, and eliminates the risk of retained sponge fragments, a complication that, though rare, carries serious medico-legal implications. One such study, published in 2021, additionally emphasises the safety profile of the injection method, noting reduced incidences of hypotony and other vision-threatening complications.

From an academic and clinical standpoint, these findings advocate for a paradigm shift toward the broader adoption of the sub-Tenon injection technique, particularly in cases where the risk of surgical complications must be meticulously minimised. Nonetheless, it remains imperative to recognise that optimal outcomes hinge upon precise technique, appropriate dosing, and judicious patient selection.

In conclusion, the evolution of MMC application strategies represents a significant step toward enhancing the safety and durability of trabeculectomy. Sub-Tenon injection offers a clinically sound, reproducible, and patient-centred approach that may well define the next standard of care in glaucoma surgery. Future studies focussing on long-term outcomes, quality of life metrics, and cost-effectiveness analyses would further solidify the role of sub-Tenon MMC application.

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