

Reply to Letter to Editor: Prophylactic Use of Nonsteroidal Anti-Inflammatory Drugs after Cataract Surgery and Corneal Melt

We thank the authors for their interest in our article entitled “Prophylactic use of nonsteroidal anti-inflammatory drugs after cataract surgery and corneal melt”.¹ They refer to Cabourne *et al.*'s report of 5 corneal melt and one perforation following the use of combined dexamethasone/neomycin (Maxitrol®, Alcon Laboratories, Dublin, Ireland) and ketorolac after routine cataract surgery,² and caution against the use of this combination in diabetic patients, given the well-reported risks of prescribing topical nonsteroidal anti-inflammatory drugs (NSAIDs) alongside neomycin or tobramycin. We read with interest the reduced rate of corneal melt in their patients in the past 6 years with the separate prescriptions of dexamethasone (Maxidex®, Alcon Laboratories, Dublin, Ireland), chloramphenicol, and ketorolac in diabetic patients following cataract surgery.

Looking at the literature, the corneal melt has been reported with topical administration of all types of topical NSAIDs alongside topical steroids and different antibiotics. Ting and Ghosh reported a case of corneal melt following uneventful cataract surgery and prescription of topical prednisolone, ketorolac, and chloramphenicol.³ Jesus *et al.* reported a corneal perforation following cataract surgery with the administration of dexamethasone, gentamicin, and ketorolac.⁴ Similarly, the corneal melt has been reported with other topical NSAIDs such as nepafenac, diclofenac, and bromfenac alongside topical steroids and antibiotics such as chloramphenicol, levofloxacin, and moxifloxacin after cataract surgery.^{5,6} Therefore, although this is a rare complication, the evidence shows an increased risk of corneal perforation with the topical administration of NSAIDs and steroids in the presence or absence of topical tobramycin, neomycin, or the combined drugs of dexamethasone/neomycin (Maxitrol®, Alcon Laboratories, Dublin, Ireland) and dexamethasone/tobramycin (Tobradex®, Alcon Laboratories, USA). We are pleased to understand the rate of corneal perforation in diabetic patients who received prophylactic topical NSAID following cataract surgery at Moorfields has decreased. However, this may be secondary to multiple factors, including general precaution in treating the dry eye and optimizing the ocular surface before cataract surgery, after report of the previous corneal melt cases, as well as increased popularity and accessibility of the preservative-free eye drops, which are known to induce less epithelial toxicity, in the past few years.

Moreover, it is already known that diabetes, dry eye, and topical NSAIDs will influence corneal sensitivity individually and make the cornea neurotropic.⁷⁻⁹ Furthermore, the link between diabetes and dry eye has already been established.⁷ Furthermore, topical steroids are known to worsen corneal melting clinically.¹⁰ Therefore, any toxicity of any topical antibiotic is likely to be aggregated into a neurotrophic ulcer or melt rapidly in the background of diabetes, dry eyes, and topical administration of steroids and NSAIDs. Therefore, we agree with Shalchi *et al.* that intravitreal delivery of steroids for co-management of existing/impending of cystoid macular edema (CMO) may be a better option. A blanket protocol of using topical NSAIDs in combination with antibiotics/steroids as prophylaxis should be used with caution and close monitoring with judicious patient selection and optimization of the ocular surface comorbidities, with particular emphasis on patients with systemic autoimmune conditions.

With regards to Shalchi *et al.*'s comment on the management of CMO, since our paper focused on the prophylactic use of topical NSAIDs and not the management of CMO in diabetic patients, we will refer our readers to the published guidelines on this matter.

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Conflicts of interest

There are no conflicts of interest.

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