

## Commentary: Dexamethasone and dilemma

Postoperative endophthalmitis has always been a nightmare for the patients and surgeons alike. Around 90% of patients having post trabeculectomy endophthalmitis and 40% of patients having postcataract surgery endophthalmitis would end up having final visual acuity worse than 20/200.<sup>[1]</sup> The economic burden of endophthalmitis is also significant as stated by Schmier *et al.*,<sup>[2]</sup> the average adjusted ophthalmic reimbursements were 156% greater for cases that developed endophthalmitis than for subjects having uncomplicated cataract surgery. The psychological impact on quality of life is also significant leading to poorer psychological well-being and ability to maintain a role in daily life.<sup>[3]</sup>

Even after decades of publishing, the endophthalmitis vitrectomy study (EVS)<sup>[4]</sup> still holds key role in the endophthalmitis management algorithms. Ho *et al.*<sup>[5]</sup> in their study suggested that early vitrectomy may be beneficial for all cases and not just the ones with light perception or worse visual acuity as stated in EVS.<sup>[4]</sup> Few other studies also favor early vitrectomy.<sup>[6,7]</sup> The notable fact that EVS includes only postcataract surgery cases makes its significance diluted in cases post procedures other than cataract surgery specially in current era of variety of intravitreal injections, newer and more advanced surgical techniques, and newer drugs. Additionally, the postcataract endophthalmitis was proven to have better visual outcome than post trabeculectomy, postintra vitreal injection, and endogenous endophthalmitis.<sup>[5]</sup>

In treating endophthalmitis, antibiotics are the mainstay. Their augmentation with steroids remains controversial as ever.

Many studies have reported that steroids do not add additional benefit to the final visual acuity of the patients.<sup>[8]</sup> The time of starting of steroids remains in the uncertainty. Concerns have been expressed regarding their safety and long-term outcomes. Shah *et al.*<sup>[9]</sup> reported worse visual outcome with the use of intravitreal steroids. In contrary to these reports, multiple studies have reported favorable outcomes with the use of intravitreal steroids and some reported that with the use of steroids even though the visual acuity did not have benefit, the intraocular inflammation and the overall morbidity related to the condition were helped.<sup>[10-12]</sup> Albrecht *et al.*<sup>[11]</sup> in their study analyzed groups of "postcataract surgery," "bleb related," and "other" endophthalmitis, and they found a clinical trend of better visual acuity in the subgroup of postcataract surgery endophthalmitis patients who received steroids. Gan *et al.*<sup>[12]</sup> found out in their prospective placebo-controlled study that there was a trend toward better visual outcome in patients with suspected bacterial endophthalmitis when treatment with intravitreal antibiotics was combined with intravitreal dexamethasone. Multiple animal studies have also found out intraocular steroids to be beneficial in endophthalmitis.<sup>[8,13,14]</sup>

The authors in their practice have also noticed that during vitrectomy, immediate KOH mount assessment in a standard lab to rule out fungal infection and adjuvant intravitreal dexamethasone has helped their patients with faster recovery and less inflammation.

The current metaanalysis does not show any clear visual benefit from use of adjuvant intravitreal dexamethasone in bacterial endophthalmitis.<sup>[15]</sup> Prospective randomized controlled trials for the treatment of postprocedure endophthalmitis with multicenter involvement are needed to clarify the gray areas around the usage of steroids and formulating preferred practice patterns for the new era.

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