

Antibiotic prophylaxis in cataract surgery: Understanding the trends of the day

Postoperative endophthalmitis (POE) remains the most dreaded complication for any cataract surgeon worldwide. Although with more stringent peri-operative prophylactic measures in place, the rates of POE have dropped to <0.1% all over the world, the perfect formula which would provide the maximum protection against ocular infection remains the Holy Grail.

It is interesting to see the preferred practice patterns of cataract surgeons all over the world, and these surveys have often formed the recommendations in the absence of a fixed set of guidelines on this topic.

The 2006 ESCRS study^[1,2] had first recommended the routine use of intracameral (IC) cefuroxime at the end of the cataract surgery as a safe and effective measure against POE. Eight years down the line, the 2014 ESCRS survey^[3] showed that 74% of its members had routinely inculcated IC antibiotic usage into their practice. However, this also means that approximately one-fourth of the respondents had not inculcated this effective measure in their practice in 8 years since the publication.

Similarly, the endophthalmitis prophylaxis surveys of ASCRS, 2007 and 2014,^[4,5] showed a growing trend of IC antibiotic use from 30% to 50% among its respondents. This again also indicates that 50% of respondents in 2014 were not using IC antibiotic.

In the Indian subcontinent, the practice patterns of cataract surgeons have been seen to vary widely. Some robust studies from larger institutes such as by Haripriya *et al.* concluded that IC moxifloxacin prophylaxis is effective with a 3.5-fold reduction in the overall rate of POE.^[6] This study acknowledges that, while this does not constitute Level 1 evidence and that there is no consensus that IC antibiotic prophylaxis should be the standard of care, IC moxifloxacin prophylaxis should be considered for high-risk eyes experiencing posterior capsule rupture with vitreous loss. Kelkar *et al.* in their article "Antibiotics prophylaxis practice patterns for cataract surgery in India – Results from an Online Survey"^[7] could elicit responses from a small number of participants – 1228 respondents (8.2%), which may not be truly representative of the prevalent practices among cataract surgeons in India; however, it does provide insights into POE prevention.

In this study, preoperative povidone-iodine antisepsis was adopted by 94% of the respondents. Unfortunately, this figure needs to be made 100%. Nearly 38% of the respondents reported IC antibiotic usage routinely after cataract surgery, but 68% believed that it is important to have a commercially approved drug for IC use.

Nearly 48% of the respondents were not using intraocular antibiotics since they were not convinced of the need.

The AIOS member survey by Maharana *et al.*^[8] is a commendable effort in bringing out some glaring shortcomings, and we can hope it will be the step toward formulation of a

recommended set of guidelines which every anterior-segment surgeon practicing in the country will be expected to adhere to. In addition, following up with repeated surveys with the same cohort in the future would help to assess the changes which could be brought by these recommendations. However, only 30.2% of participation in the survey is still a small number, and it can be hoped that this participation can be increased in future surveys.

The revelation from the study that only 83% use of povidone-iodine is an eye-opener showing that <100% of the respondents perform mandatory preoperative preparations.

Use of postoperative subconjunctival antibiotics by 46% of the respondents is another revelation highlighting rigid barriers to the changing protocols of postoperative antibiotic regimen.

Thus, we do understand that preferred practice patterns should not only give mandatory protocols on specific disease issues from time to time, but the ophthalmological community must also institute measures to execute the same in the large interest of our patients.

There is a strong need to educate our ophthalmologists across the country of the changed protocols of antibiotic prophylaxis in the current scenario.

These are the interesting facts which prove that there is a major challenge in convincing the respondents on the use of safety measures.

Partha Biswas, Sneha Batra

B B Eye Foundation, Kolkata, West Bengal, India

Correspondence to: Dr. Partha Biswas,
B B Eye Foundation, 2/5, Sarat Bose Road, Sukhsagar Building,
Near Minto Park, Kolkata - 700 020, West Bengal, India.
E-mail: drpartha_biswas07@yahoo.co.in

References

1. Barry P, Seal DV, Gettinby G, Lees F, Peterson M, Revie CW, *et al.* ESCRS study of prophylaxis of postoperative endophthalmitis after cataract surgery: Preliminary report of principal results from a European multicenter study. *J Cataract Refract Surg* 2006;32:407-10.
2. Endophthalmitis Study Group, European Society of Cataract and Refractive Surgeons. Prophylaxis of postoperative endophthalmitis following cataract surgery: Results of the ESCRS multicenter study and identification of risk factors. *J Cataract Refract Surg* 2007;33:978-88.
3. Barry P. Adoption of intracameral antibiotic prophylaxis of endophthalmitis following cataract surgery: Update on the ESCRS endophthalmitis study. *J Cataract Refract Surg* 2014;40:138-42.
4. Chang DF, Braga-Mele R, Mamalis N, Masket S, Miller KM, Nichamin LD, *et al.* Prophylaxis of postoperative endophthalmitis after cataract surgery: Results of the 2007 ASCRS member survey. *J Cataract Refract Surg* 2007;33:1801-5.
5. Chang DF, Braga-Mele R, Henderson BA, Mamalis N, Vasavada A; ASCRS Cataract Clinical Committee. Antibiotic prophylaxis of postoperative endophthalmitis after cataract surgery: Results of the 2014 ASCRS member survey. *J Cataract Refract Surg* 2015;41:1300-5.
6. Haripriya A, Chang DF, Ravindran RD. Endophthalmitis reduction with intracameral moxifloxacin prophylaxis: Analysis of 600 000 surgeries. *Ophthalmology* 2017;124:768-75.

7. Kelkar AS, Chang DF, Kelkar JA, Mehta HM, Lahane T, Parekh R, *et al.* Antibiotic prophylaxis practice patterns for cataract surgery in India – Results from an online survey. *Indian J Ophthalmol* 2017;65:1470-4.
8. Maharana PK, Chhablani JK, Das TP, Kumar A, Sharma N. All India Ophthalmological Society members survey results: Cataract surgery antibiotic prophylaxis current practice pattern 2017. *Indian J Ophthalmol* 2018;66:820-4.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_746_18

Cite this article as: Biswas P, Batra S. Antibiotic prophylaxis in cataract surgery: Understanding the trends of the day. *Indian J Ophthalmol* 2018;66:825-6.