Original Article

Antibiotic and anti-inflammatory prophylaxis in cataract surgery: Latin America and the Caribbean survey

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Abstract

Purpose: The purpose of this study was to evaluate current practice patterns of antibiotic and anti-inflammatory prophylaxis in cataract surgery in Latin America and the Caribbean.

Design: The study design involves cross-sectional online survey.

Methods: A link to an anonymous online survey consisting of 36 questions related to preoperative, perioperative, and postoperative antibiotic and anti-inflammatory prophylaxis was sent to ophthalmologists in our contact database who perform cataract surgery in Latin America and the Caribbean.

Results: Responses were received from 407 cataract surgeons. Preoperative topical antibiotics were reported to be routinely prescribed by 45% of respondents and postoperatively by 99%. Routine intracameral (IC) antibiotic injection was reported by 51%, with moxifloxacin preferred by 84%. Reasons cited for not adopting injections included being unconvinced of the need (60%), mixing/compounding risk (26%), and cost (8%). Topical steroids were routinely prescribed by 96% of surgeons for the postoperative period, with 61% reporting using prednisolone. A nonsteroidal anti-inflammatory drug (NSAID) was routinely prescribed by 58% for the postoperative period. Nineteen percent of surgeons do not instruct patients to taper steroids, 47% instruct patients to taper topical antibiotics, and 29% NSAIDs (if prescribed). Routine corticosteroid injection at the conclusion of surgery was reported by 22%. Of these, 53% reported injecting in the subconjunctival space, 28% in the peribulbar region, and 19% in the anterior chamber.

Conclusions: IC antibiotic prophylaxis was injected by 51% of surgeons; however, 99% also prescribed topical postoperative antibiotics. Ninety-six percent of respondents prescribed topical steroids postoperatively, 58% prescribed an NSAID, and 22% injected a steroidal anti-inflammatory at the conclusion of surgery.

Keywords: Anti-inflammatory, cataract surgery, intracameral antibiotics, Latin America and the Caribbean, prophylaxis

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INTRODUCTION

Routine prophylaxis for cataract surgery has been widely studied in the United States (U.S.) and Europe (E.U.), yet there remains a notable lack of research within Latin America and the Caribbean. Understanding regional differences in practice patterns may be an important tool for identifying trends and gaps in evidence-based practices, as variations in prophylactic regimens exist globally.

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Povidone–iodine antisepsis is a generally accepted preoperative measure with a strong evidence base for reducing endophthalmitis, though the optimal concentration may be controversial.[1-3] Preoperative topical antibiotic prophylaxis has been prescribed off-label for decades despite the lack of level I evidence.[4,5] Topical antibiotic prophylaxis in the postoperative period remains the most common form of infection prophylaxis in many regions, including the U.S.[6]

There is substantial evidence supporting the efficacy of intracameral (IC) antibiotics for the prevention of postoperative endophthalmitis.[7-12] Since the first publication of the European Society of Cataract and Refractive Surgery (ESCRS) clinical trial in 2006,[13] manufactured products have been approved for this indication, including Aprokam in the E.U. and Auromox in India. As a result, IC antibiotics have become the standard of care in Europe.[14] The European survey published in 2014 noted that 74% of respondents usually injected IC antibiotics in their cataract surgery procedures.[14] Similarly, the American Society of Cataract and Refractive Surgery (ASCRS) survey published in 2021 reported that 66% of respondents injected IC antibiotics.[6] A recent publication evaluating the practice patterns among members of the Japanese Society of Cataract and Refractive Surgery (JSCRS) showed a significant increase in the use of IC injection of antibiotic, although it has not been established as a common practice.[15] In the U.S., hesitancy to IC injection remains largely due to the lack of a Food and Drug Administration-approved product.[6] Because of this, the standard of care for endophthalmitis prophylaxis in the U.S. remains somewhat unclear, although injection of IC antibiotics is gradually gaining traction.

Conventionally, postoperative topical medications have been prescribed to prevent inflammation and cystoid macular edema (CME). Topical steroid and nonsteroidal anti-inflammatory drugs (NSAID) are standard treatments in both the U.S. and E.U.[16] Recent evidence suggests that the combination of steroid plus NSAID reduces the odds of postoperative CME compared with steroid alone.[17] There is no consensus on the long-term benefits of combined topical therapy, however, particularly when considering the added cost.[18,19]

Studies have shown that up to 93% of patients fail to administer topical medications correctly, which could lead to prolonged inflammation, delayed visual recovery, and reduced patient satisfaction.[20] Evolving chemoprophylaxis strategies include moving away from topical prophylaxis to surgeon-directed injections at the time of surgery and improved outcomes.[21-25]

We conducted a survey to investigate antibiotic and anti-inflammatory prophylaxis practices among ophthalmologists in Latin America and the Caribbean. This survey aims to provide insights into current regional trends and offer a basis for surgeons to evaluate and potentially refine their prophylactic strategies, considering the evolving evidence.

METHODS

In January 2025, we distributed a link to an online survey to ophthalmologists in our contact database who perform cataract surgery in Latin America and the Caribbean. We asked these contacts to further disseminate requests for participation in the survey to other surgeons in their locality. The online anonymous survey consisted of 36 questions with conditional branching, covering preoperative, perioperative, and postoperative antibiotic and anti-inflammatory prophylaxis in cataract surgery [Supplementary Material 1 for the questionnaire]. We requested that respondents complete the survey only once.

Regional variations were analyzed statistically using the Chi-square hypothesis testing for independence.

RESULTS

A total of 407 ophthalmologists completed the survey. All geographical regions (Central and South America, Mexico, and the Caribbean) and surgical volume practices were represented [Table 1].

Infection prevention

Preoperative topical antibiotics were prescribed by 181 (44%) respondents. Of these, 132 (73%) preferred a fourth-generation fluoroquinolone, 34 (19%) preferred a third-generation fluoroquinolone, and 14 (8%) reported using tobramycin. More than half of respondents reported the instructing patients to start the antibiotic 2–3 days before surgery (104, 58%), while 37 (20%) reported instructing patients to start the antibiotic on the day of

Table 1: Distribution of respondents by location and annual surgical volume

	Respondents (*n*=407), *n* (%)
Location	
South America	183 (45)
Central America	148 (36)
Mexico	40 (10)
Caribbean	36 (9)
Annual surgical volume (cases)	
<100	118 (29)
100–300	147 (36)
300–500	60 (15)
>500	82 (20)

surgery, 32 (17%) 1 day before surgery, 7 (4%) the week before surgery, and one respondent 2–3 weeks before surgery.

Nearly all surgeons (405, 99%) reported prescribing postoperative topical antibiotics. Of those, 281 (69%) instruct patients to start them on the day of surgery, while 124 (31%) wait until the 1st postoperative day. Sixty-eight (17%) respondents reported advising patients to discontinue postoperative topical antibiotics by 1 week, whereas the remainder (337, 83%) advised continuing them for more than 2 weeks. Almost half of the surgeons, 192 (47%), indicated instructing patients to taper the postoperative antibiotic.

Intraoperative antibiotic prophylaxis was reported by 205 (51%) respondents mostly by the IC route [Table 2]. Of these, 150 (73%) reported that they initiated this practice within the previous 3 years or more, 34 (17%) started in the previous 2 years, 12 (6%) in the previous year, and 9 (4%) <12 months prior to the survey. Respondents using IC antibiotics reported few complications in the last 5 years, including 9 (2%) reporting at least one patient with toxic anterior segment syndrome. In this group of respondents (who inject IC antibiotics), 203 (99%) also prescribe topical antibiotics for postoperative instillation.

Moxifloxacin was the preferred IC drug. Most respondents injected a topical brand product, 163 (94%), in the case of IC moxifloxacin. Of those who inject IC moxifloxacin from a brand or generic topical bottle, 64 (38%) reported injecting 0.1 mL of 0.5% concentration, 75 (45%) reported injecting the 0.1% concentration, and 28 (17%) did not know the concentration. Of those injecting the 0.1% strength, 65 (87%) reported injecting 0.1 mL, and 10 (13%) reported injecting 0.5 mL. Of those injecting cefuroxime, 15 (68%) reported injecting 0.1 mL, 4 (18%) reported 0.5 mL, and 3 (14%) did not know the volume they injected.

Of the 202 respondents that do not inject IC antibiotics, reasons for hesitancy included 125 (62%) who were unconvinced of the need or evidence proving its efficacy, 55 (27%) were concerned about the risk of infection or toxicity from compounding, and 16 (8%) cited cost as a barrier.

There were 19 (5%) respondents who reported using antibiotics in the irrigation bottle.

Inflammation prophylaxis

Topical postoperative corticosteroids were reported to be prescribed or dispensed by 390 (96%) respondents [Table 3], with prednisolone being the most common drug. Instructed duration was most common between 2 and 4 weeks, with 318 (81%) instructing patients to taper instillation frequency.

Table 2: Intraoperative antibiotic prophylaxis

	Respondents (*n*=407), *n* (%)
Antibiotic injection	
Inject	205 (51)
Do not inject	202 (49)
Route of administration (*n*=205)	
IC	198 (97)
Subconjunctival	4 (2)
Peribulbar	3 (1)
Drug preference (*n*=205)	
Moxifloxacin	173 (85)
Cefuroxime	22 (11)
Vancomycin	5 (2)
Other	5 (2)
Type of product administered (*n*=205)	
Approved brand for topical use prepared/diluted in the OR (e.g., Vigamox)	166 (81)
Approved brand for intraocular use (e.g., Aprokam)	15 (8)
Approved generic brand for topical use prepared/diluted in the OR (e.g., moxifloxacin)	5 (2)
Injected solution prepared inhouse pharmacy	10 (5)
Injected solution prepared in outside pharmacy	1 (1)
Other	8 (3)

OR: Operating room, IC: Intracameral

Table 3: Postoperative topical anti-inflammatory prophylaxis

	Respondents (*n*=407), *n* (%)
Topical steroids	
Prescribe	390 (96)
Do not prescribe or dispense	17 (4)
Preferred steroid (*n*=390)	
Prednisolone	239 (61)
Dexamethasone	148 (38)
Other	3 (1)
Start of postoperative topical steroid (*n*=390)	
Day of surgery	265 (68)
Next day after surgery	125 (32)
Postoperative duration (*n*=390) (weeks)	
1	20 (4)
2	105 (27)
3	88 (23)
4	147 (38)
>5	30 (8)
Topical NSAID	
Prescribe	235 (58)
Do not prescribe or dispense	172 (42)
Preferred NSAID (*n*=235)	
Bromfenac	120 (51)
Nepafenac	74 (32)
Ketorolac	27 (11)
Diclofenac	12 (5)
Other	2 (1)
Start of postoperative topical NSAID (*n*=235)	
Day of surgery	156 (67)
Next day after surgery	69 (30)
2nd day after surgery	10 (3)
Postoperative duration (*n*=235) (weeks)	
1	7 (3)
2	34 (14)
3	37 (15)
4	100 (43)
>5	57 (25)

NSAID: Nonsteroidal anti-inflammatory drug

Two hundred and thirty-five surgeons (58%) reported prescribing or dispensing postoperative topical NSAIDs, with bromfenac and nepafenac being the most common drugs. Instructed duration was most commonly 4 weeks, and 67 (29%) instructed patients were advised to taper the instillation frequency.

Topical anti-inflammatory prophylaxis was reported to be routinely administered at the conclusion of surgery by 246 (60%) respondents, with prednisolone and dexamethasone being the most common drugs [Table 4].

Slightly less than a quarter of respondents (91, 22%) injected a corticosteroid. Subconjunctival dexamethasone was the most common agent. Of these, 27 (40%) injected in the subconjunctival space and 21 (31%) injected in the peribulbar location. A dosage of 2–4 mg was the most common (85%).

Among those injecting a long-acting corticosteroid (25, 6%), 21 were in the subconjunctival location (84%), with triamcinolone being the most common drug (18, 72%) at a dosage of 2–4 mg (13, 52%). Nearly all respondents who inject a long-acting corticosteroid also prescribe or dispense a topical anti-inflammatory agent (24, 96%).

Of those injecting in the IC location, 16 (94%) of respondents used dexamethasone with 2 mg as the most common dose (10, 63%).

Table 4: Intraoperative anti-inflammatory prophylaxis

	Respondents (*n*=407), *n* (%)
Topical anti-inflammatory	
Administer	246 (60)
Do not administer	161 (40)
Preferred topical anti-inflammatory (*n*=246)	
Steroids	155 (63)
NSAID	35 (14)
Steroid + NSAID	56 (23)
Drug preference	
Dexamethasone	103 (49)
Prednisolone	93 (44)
Bromfenac	21 (23)
Nepafenac	14 (15)
Injection	
Administer	91 (22)
Do not administer	316 (78)
Drug preference (*n*=91)	
Dexamethasone	68 (75)
Triamcinolone	18 (20)
Other (betamethasone and methylprednisolone)	5 (5)
Route of administration (*n*=91)	
Subconjunctival	48 (53)
Peribulbar	26 (29)
Anterior chamber (IC)	17 (19)
Dosage (mg), (*n*=91)	
2	45 (49)
4	27 (30)
8–10	7 (8)
Other	12 (13)
Type of product administered (*n*=91)	
Approved brand for the administration route	47 (53)
Approved brand for other administration routes	37 (40)
Injected solution prepared inhouse pharmacy	4 (4)
Injected solution prepared in outside pharmacy	3 (3)

NSAID: Nonsteroidal anti-inflammatory drug, IC: Intracameral

Regional variation

Preoperative antibiotic prescribing did not differ significantly across regions (P = 0.62) [Table 5]. Respondents from the Caribbean were more likely to inject IC antibiotics and prescribe topical NSAIDs, followed by those in Central and South America, and the least by respondents in Mexico. An intraoperative, long-acting corticosteroid was most likely performed by respondents from Central America, followed by those from South America, with Mexico and the Caribbean each accounting for a small percentage.

We compared patterns in prescribing preoperative topical antibiotics and IC antibiotic injections by respondents' surgical volume. A nonstatistical trend of a higher percentage of IC injections (P = 0.21) was found with higher volume surgeons, while no clear positive or negative correlation was found with the prescribing of a preoperative antibiotic (P = 0.72) [Supplementary Table 1].

DISCUSSION

To our knowledge, this is the first published survey of cataract surgery prophylaxis patterns in Latin America and the Caribbean. The results reveal a blend of evidence-based strategies and persistent traditional practices.

Endophthalmitis prevention

Since the publication of the ESCRS endophthalmitis prophylaxis trial in 2006, studies have demonstrated that adding IC antibiotic injection to a topical antibiotic regimen significantly reduces the risk of postoperative

Table 5: Regional differences in prophylaxis

Region	Respondents (*n*)	Preoperative antibiotic (%)	IC antibiotic (%)	Topical NSAID (%)	Long-acting steroid injection (%)
Mexico	40	48	38	35	4
Caribbean	36	39	81	78	4
Central America	148	48	54	63	56
South America	183	42	44	55	36

IC: Intracameral, NSAID: Nonsteroidal anti-inflammatory drug

endophthalmitis compared with topical treatment alone.[5,9,12,26] Subsequent studies, including large systematic reviews and meta-analyses, conclude that topical antibiotic treatment does not add benefit to the larger reduction in endophthalmitis risk provided by IC injection.[7,8,27]

Adoption rates of IC antibiotic, with or without supplemental topical antibiotic, in Latin America and the Caribbean (but not Mexico) are approaching those of other countries. A recent ASCRS survey showed that two-thirds of respondents, mostly from the U.S., inject IC antibiotics up from 50% in 2014 and 30% in 2007.[6] Similarly, 74% of ESCRS members reported injecting IC antibiotics in 2014,[14] with a similar trend evident among surgeons in Japan according to a survey published in 2024.[15] The higher IC injection adoption rate in Europe is likely due to the availability of a manufactured product with an indication for this purpose. Concerns reflected in this study among those who do not currently inject reflect those in the U.S., where an approved product with an IC indication also does not exist. Respondents cited challenges and risks of compounding (27% in the current study and 66% in the ASCRS survey) and lack of sufficient evidence of efficacy (62% and 48%, respectively) as reasons for not injecting.[6] The latter reason, in light of the current evidence, may indicate a gap in awareness, acknowledgment, or credibility of recent study reports in the Americas. The relatively high percentage of respondents who reported initiating IC injection in the 3 years prior to this survey may suggest, however, that the adoption of this practice is increasing.

Additional potential gaps in understanding include awareness of concentration and dose of the IC antibiotics being injected, correct dosing, and instructing patients to taper postoperative antibiotic drops, which may increase the risk of the emergence of resistant organisms, potentially complicating effective treatment.[28,29] Nearly half of the respondents in this study are uncertain about the concentration of IC antibiotics they are administering, or reported an incorrect concentration of the topical drug used for IC injection. A small group of respondents reported routinely injecting 0.5 mL of 0.5% moxifloxacin, and nearly 20% of surgeons who inject cefuroxime reported administering a volume of 0.5 mL. These nonstandard doses of moxifloxacin and cefuroxime substantially increase the risk of toxicity to endothelial cells and the macula.[30-32] The ASCRS recently issued an advisory alert on the importance of proper sourcing, concentration, and injection volume of moxifloxacin to avoid excessive dosing leading to toxicity or underdosing, which may increase the risk of endophthalmitis.[33]

Preoperative topical antibiotics are prescribed by nearly 45% of respondents, which is considerably lower than the percentage reported in the ASCRS survey (73%).[6] While one large, multicenter observational study reported that topical antibiotics administered in the postoperative period reduce the risk of endophthalmitis by about half,[26] there are no large or well-controlled studies demonstrating the benefit of preoperative topical antibiotic instillation as long as an antiseptic prep is applied prior to surgery.[1-3]

Inflammation prevention

Nearly all respondents in this survey prescribed postoperative topical steroids, mainly prednisolone for 2–4 weeks, starting on the day of the surgery. While most instruct patients to taper, 20% do not, which may expose patients to increased risk of rebound iritis following abrupt cessation of anti-inflammatory drops.[34] More than half of respondents use a combination of steroid plus NSAID (58%), which is in line with the 73% of predominantly U.S. surgeons who responded to another recent survey.[16] A slight majority prescribe bromfenac as the agent of choice, with most respondents in this group instructing patients to begin instillation on the day of the surgery. Tapering instructions for NSAIDs are given by 30% of respondents, though there is no current evidence that tapering is necessary. There is an apparent gap in awareness that corticosteroid medications should be tapered, while antibiotics and NSAIDs should not.

Nearly a quarter of respondents reported injecting a corticosteroid at the conclusion of surgery in the peribulbar, subconjunctival, or IC space. A subset of these surgeons (6%) reported routinely injecting a longer-acting preparation such as triamcinolone or betamethasone, which is similar to the 10% reported in a recent U.S.-based survey.[16] All surgeons reported supplementing injections with postoperative topical steroid drops with or without NSAID. Standalone injection of long-acting steroid is an evolving practice with emerging evidence supporting the superiority of this technique compared with steroid drops with or without NSAID.[22,23]

Limitations of this study include the methodology of the distribution of requests for completion of the survey. We were not able to secure complete lists of cataract surgeons in each region from local or countrywide ophthalmologic organizations. This may impact generalizability; however, each region, prophylaxis regimen, and surgical volume cohorts were represented. Another potential limitation is the completion of the survey by the same surgeon more than once. While this was technically possible, there were no incentives, financial, or otherwise, to complete the survey,

making this an unlikely source of error. The self-reporting nature of any survey may introduce unconscious bias in historical data gathering; however, this survey was primarily structured for gathering qualitative information about current routine practice. Future studies with larger sample sizes and more detailed data on surgical techniques and settings (e.g., public vs. private hospitals) may provide a more comprehensive understanding of prophylactic practices.

CONCLUSIONS

This survey provides the first detailed data on self-reported prophylaxis patterns following cataract surgery in Latin America and the Caribbean. The results were similar to U.S.-based reports and reveal opportunities to hew more closely to evidence-based practice including (1) reducing unnecessary preoperative topical antibiotics when antiseptic prep is performed, (2) increasing adoption of IC antibiotic injection, (3) reducing postoperative antibiotics, and (4) tapering steroids postoperatively but not antibiotics or NSAID. Further research may provide additional clarity on postoperative steroid injection as a standalone prophylactic strategy.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Speaker MG, Menikoff JA. Prophylaxis of endophthalmitis with topical povidone-iodine. Ophthalmology 1991;98:1769-75.
2. Koerner JC, George MJ, Meyer DR, Rosco MG, Habib MM. Povidone-iodine concentration and dosing in cataract surgery. Surv Ophthalmol 2018;63:862-8.
3. Silas MR, Schroeder RM, Thomson RB, Myers WG. Optimizing the antisepsis protocol: Effectiveness of 3 povidone-iodine 1.0% applications versus a single application of povidone-iodine 5.0. J Cataract Refract Surg 2017;43:400-4.
4. Huang J, Wang X, Chen X, Song Q, Liu W, Lu L. Perioperative antibiotics to prevent acute endophthalmitis after ophthalmic surgery: A systematic review and meta-analysis. PLoS One 2016;11:e0166141.
5. Barry P, Cordovés L, Gardner S. ESCRS Guidelines for Prevention and Treatment of Endophthalmitis Following Cataract Surgery: Data, Dilemmas and Conclusions. European Society of Cataract and Refractive Surgeons, Dublin, Ireland 2013. Available at: http://www.escrs.org/downloads/Endophthalmitis-Guidelines.pdf. [Last accessed on 2025 May 16].
6. Chang DF, Rhee DJ. Antibiotic prophylaxis of postoperative endophthalmitis after cataract surgery: Results of the 2021 ASCRS member survey. J Cataract Refract Surg 2022;48:3-7.
7. Kato A, Horita N, Namkoong H, Nomura E, Masuhara N, Kaneko T, *et al*. Prophylactic antibiotics for postcataract surgery endophthalmitis: A systematic review and network meta-analysis of 6.8 million eyes. Sci Rep 2022;12:17416.
8. Kessel L, Flesner P, Andresen J, Erngaard D, Tendal B, Hjortdal J. Antibiotic prevention of postcataract endophthalmitis: A systematic review and meta-analysis. Acta Ophthalmol 2015;93:303-17.
9. Haripriya A, Chang DF, Ravindran RD. Endophthalmitis reduction with intracameral moxifloxacin in eyes with and without surgical complications: Results from 2 million consecutive cataract surgeries. J Cataract Refract Surg 2019;45:1226-33.
10. Leung EH, Gibbons A, Stout JT, Koch DD. Intracameral moxifloxacin for endophthalmitis prophylaxis after cataract surgery: Cost-effectiveness analysis. J Cataract Refract Surg 2018;44:971-8.
11. Lieu AC, Jun JH, Afshari NA. Intracameral antibiotics during cataract surgery: Efficacy, safety, and cost-benefit considerations. Curr Opin Ophthalmol 2024;35:50-6.
12. Melega MV, Alves M, Cavalcanti Lira RP, Cardoso da Silva I, Ferreira BG, Assis Filho HL, *et al*. Safety and efficacy of intracameral moxifloxacin for prevention of post-cataract endophthalmitis: Randomized controlled clinical trial. J Cataract Refract Surg 2019;45:343-50.
13. 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.
14. 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.
15. Sato M, Kamiya K, Hayashi K, Tabuchi H, Kojima T, Goto N, *et al*. Changes in cataract and refractive surgery practice patterns among JSCRS members over the past 20 years. Jpn J Ophthalmol 2024;68:443-62.
16. Awidi AA, Chang DF, Riaz KM, Li X, LaBorwit S, Zebardast N, *et al*. Anti-inflammatory medication use after cataract surgery: Online survey of practice patterns. J Cataract Refract Surg 2024;50:224-9.
17. Wielders LH, Schouten JS, Winkens B, van den Biggelaar FJ, Veldhuizen CA, Findl O, *et al*. European multicenter trial of the prevention of cystoid macular edema after cataract surgery in nondiabetics: ESCRS PREMED study report 1. J Cataract Refract Surg 2018;44:429-39.
18. Lim BX, Lim CH, Lim DK, Evans JR, Bunce C, Wormald R. Prophylactic non-steroidal anti-inflammatory drugs for the prevention of macular oedema after cataract surgery. Cochrane Database Syst Rev 2016;11:CD006683.
19. Modjtahedi BS, Paschal JF, Batech M, Luong TQ, Fong DS. Perioperative topical nonsteroidal anti-inflammatory drugs for macular edema prophylaxis following cataract surgery. Am J Ophthalmol 2017;176:174-82.
20. An JA, Kasner O, Samek DA, Lévesque V. Evaluation of eyedrop administration by inexperienced patients after cataract surgery. J Cataract Refract Surg 2014;40:1857-61.
21. Shorstein NH, McCabe SE, Alavi M, Kwan ML, Chandra NS. Triamcinolone acetonide subconjunctival injection as stand-alone inflammation prophylaxis after phacoemulsification cataract surgery. Ophthalmology 2024;131:1145-56.
22. Lindholm JM, Taipale C, Ylinen P, Tuuminen R. Perioperative subconjunctival triamcinolone acetonide injection for prevention of inflammation and macular oedema after cataract surgery. Acta Ophthalmol 2020;98:36-42.
23. Rattan SA, Mohammad NK, Mutashar MK. Two different chemoprophylaxis approaches after phacoemulsification surgery in one thousand patients in Iraq. Int Eye Sci Eye Sci 2018;18:1757-62.
24. Negi AK, Browning AC, Vernon SA. Single perioperative triamcinolone injection versus standard postoperative steroid drops after uneventful phacoemulsification surgery: Randomized controlled trial. J Cataract Refract Surg 2006;32:468-74.
25. Paganelli F, Cardillo JA, Melo LA Jr., Oliveira AG, Skaf M, Costa RA,

et al. A single intraoperative sub-Tenon's capsule triamcinolone acetonide injection for the treatment of post-cataract surgery inflammation. Ophthalmology 2004;111:2102-8.
26. Herrinton LJ, Shorstein NH, Paschal JF, Liu L, Contreras R, Winthrop KL, *et al*. Comparative effectiveness of antibiotic prophylaxis in cataract surgery. Ophthalmology 2016;123:287-94.
27. Bowen RC, Zhou AX, Bondalapati S, Lawyer TW, Snow KB, Evans PR, *et al*. Comparative analysis of the safety and efficacy of intracameral cefuroxime, moxifloxacin and vancomycin at the end of cataract surgery: A meta-analysis. Br J Ophthalmol 2018;102:1268-76.
28. Nejima R, Shimizu K, Ono T, Noguchi Y, Yagi A, Iwasaki T, *et al*. Effect of the administration period of perioperative topical levofloxacin on normal conjunctival bacterial flora. J Cataract Refract Surg 2017;43:42-8.
29. Yin V, Weisbrod D, Eng K, Shwartz C, Kolhy R, Mandelcorn E, *et al*. Antibiotic resistance of ocular surface flora with repeated use of a topical antibiotic after intravitreal injection. Clin Sci 2016;131:456-61.
30. Haruki T, Miyazaki D, Matsuura K, Terasaka Y, Noguchi Y, Inoue Y, *et al*. Comparison of toxicities of moxifloxacin, cefuroxime, and levofloxacin to corneal endothelial cells *in vitro*. J Cataract Refract Surg 2014;40:1872-8.
31. Chang DF, Prajna NV, Szczotka-Flynn LB, Benetz BA, Lass JH, O'Brien RC, *et al*. Comparative corneal endothelial cell toxicity of differing intracameral moxifloxacin doses after phacoemulsification. J Cataract Refract Surg 2020;46:355-9.
32. Delyfer MN, Rougier MB, Leoni S, Zhang Q, Dalbon F, Colin J, *et al*. Ocular toxicity after intracameral injection of very high doses of cefuroxime during cataract surgery. J Cataract Refract Surg 2011;37:271-8.
33. Myers WG, Chang DF, Shorstein NH, Mah FS, Mamalis N, Miller KM, *et al*. ASCRS clinical advisory on intracameral moxifloxacin injection for infection prophylaxis. J Cataract Refract Surg 2023;49:1068-70.
34. Miller KM, Oetting TA, Tweeten JP, Carter K, Lee BS, Lin S, *et al*. Cataract in the adult eye preferred practice pattern. Ophthalmology 2022;129:P1-126.

SUPPLEMENTARY MATERIAL 1

Profilaxis Antibiótica y Anti-inflamatoria en cirugía de Catarata: Latino América y el Caribe
POR FAVOR RESPONDA CADA PREGUNTA EN BASE A SU PRÁCTICA HABITUAL
* Indica que la pregunta es obligatoria

1. ¿Aproximadamente cuántas cirugías de catarata realiza por año?*
2. ¿En qué región realiza la mayor parte de sus cirugías de catarata?*
3. ¿Qué antibiótico tópico prescribe/receta de manera rutinaria para el PREOPERATORIO en sus pacientes?
**Marca solo un óvalo.*
Ninguno → *Salta a la pregunta 5*
Fluroquinolonas de 3ra generación (ofloxacina/ciprofloxacina)
Fluroquinolonas de 4ta generación (gatifloxacina/moxifloxacina)
Tobramicina
Otro:

ANTIBIÓTICO TÓPICO PRE OPERATORIO
4. ¿Cuánto tiempo ANTES de la cirugía de catarata inicia el antibiótico tópico PREoperatorio?
**Marca solo un óvalo.*
1 día
2-3 días
1 semana
2-3 semanas
El día de la cirugía

ANTIBIÓTICO/ANTI-INFLAMATORIO EN LA BOTELLA DEINFUSIÓN/IRRIGACIÓN
5.¿Usted agrega antibiótico y/o anti inflamatorio a la botella de infusión/irrigación?
* *Marca solo un óvalo.*
Si
No → *Salta a la pregunta 7*

ANTIBIÓTICO/ANTI-INFLAMATORIO EN LA BOTELLA DEINFUSIÓN/IRRIGACIÓN
6. ¿Qué antibiótico y/o anti-inflamatorio y que dosis agrega a la botella deinfusión/irrigación?*
INYECCIÓN DE ANTIBIÓTICO INTRAOCULAR
7. ¿Usted INYECTA antibiótico intraocular al finalizar la cirugía de catarata?
* *Marca solo un óvalo.*
Si
No → *Salta a la pregunta 14*

ANTIBIÓTICO PARA INYECCIÓN INTRAOCULAR Y DOSIS
8. ¿Qué antibiótico intraocular inyecta al finalizar la cirugía de catarata?
* *Marca solo un óvalo.*
Cefuroxima
Moxifloxacina
Vancomicina
Otro:

9.¿Qué dosis de antibiótico intraocular inyecta?
**Marca solo un óvalo.*
0.1 mL de una solución al 0.1%
0.1 mL de una solución al 0.5%
0.5 mL de una solución al 0.1%

No estoy seguro/a
Otro:

10. ¿Qué tipo de producto inyecta?
* *Marca solo un óvalo.*
Un producto aprobado y comercializado para inyección INTRAOCULAR (ej.Aprokam, Auromox)
Una MARCA aprobada y comercializada para uso TÓPICO (ej. Vigamox) que secarga/prepara en Sala de Operaciones
Un producto GENÉRICO aprobado y comercializado para uso TÓPICO (ej.moxifloxacina genérica) que se carga/prepara en Sala de Operaciones
Solución inyectable preparada en una farmacia extrahospitalaria
Solución inyectable preparada en la farmacia hospitalaria
Otro:

11. ¿En DONDE inyecta el antibiótico?
* *Marca solo un óvalo.*
Cámara Anterior (intracameral)
Vítreo vía pars plana
Vítreo vía transzonular
Peribulbar
Subconjuntival
Otro:

12. ¿Hace cuanto tiempo usa este método para inyección del antibiótico?
**Marca solo un óvalo.*
Menos de 1 año
1 año
2 años
3 años o más

COMPLICACIONES DE INYECCIÓN DE ANTIBIÓTICO INTRAOCULAR
13. ¿Ha tenido alguna complicación por el uso de antibiótico intraocular en los últimos5 años?
Marca solo un óvalo.
Ninguna
Toxicidad macular
Toxicidad del Segmento Anterior
Endoftalmitis
Otro:
➔ Salta a la pregunta 15

RAZÓN DE NO INYECTAR ANTIBIÓTICO INTRAOCULAR
14. ¿Cuál es la razón/es de NO inyectar antibiótico intraocular? (puede marcar varias respuestas)
* *Selecciona todos los que correspondan.*
No se como conseguirlo
No se cuánto inyectar
Riesgo de errores en la preparación que pueda causar inflamación o infección
Costo
Falta de evidencia que demuestre su efectividad
Otro:

ANTIBIÓTICO POST OPERATORIO TÓPICO?
15. ¿Usted prescribe/receta antibiótico tópico POST OPERATORIO de manera rutinaria?
* *Marca solo un óvalo.*

Si
No → *Salta a la pregunta 19*

RÉGIMEN DE TRATAMIENTO ANTIBIÓTICO TÓPICO POST OPERATORIO
16. ¿Cuándo le indica al paciente iniciar con el antibiótico tópico POST OPERATORIO?
* *Marca solo un óvalo.*
El día de la cirugía
Al día siguiente de la cirugía
Otro:

17. ¿Durante cuánto tiempo le indica al paciente que continúe administrando elantibiótico tópico POST OPERATORIO?
* *Marca solo un óvalo.*
1-3 días
4-7 días
De 1-2 semanas
3-4 semanas o más

18. ¿Le indica al paciente una pauta de disminución del antibiótico tópico POSTOPERATORIO?
* *Marca solo un óvalo.*
Si
No

INYECCIÓN DE ANTI-INFLAMATORIO
19. ¿Usted INYECTA anti inflamatorio al finalizar la cirugía de catarata?
* *Marca solo un óvalo.*
Si
No → *Salta a la pregunta 25*

INYECCIÓN DE ANTI INFLAMATORIO
20. ¿Qué anti inflamatorio INYECTA al finalizar la cirugía de catarata?
* *Marca solo un óvalo.*
Esteroide
AINE
Esteroide y AINE

ANTI INFLAMATORIOS PARA INYECCIÓN
21. ¿Qué anti inflamatorio/s inyecta de manera rutinaria al finalizar la cirugía decatarata? (Puede marcar varias respuestas)
* *Selecciona todos los que correspondan.*
Dexametasona
Triamcinolona
Prednisolona
Betametasona
Ketorolaco
Otro:

22. ¿En DONDE inyecta el anti inflamatorio al finalizar la cirugía de catarata?
* *Marca solo un óvalo.*
Cámara Anterior (intracameral)
Vítreo vía pars plana
Vítreo vía transzonular
Peribulbar
Subconjuntival

23. ¿Qué DOSIS de anti inflamatorio inyecta (mg)?
*Dropdown *Marca solo un óvalo.*
Ninguna
2
4
8-10
11-15
16-20
21-40

24. ¿Qué tipo de producto inyecta?
**Marca solo un óvalo.*
Un producto aprobado y comercializado para la vía de administración que utilizo (ej.)
Un producto aprobado para indicaciones DIFERENTES a la vía de administraciónque utilizo (uso fuera de ficha) (ej. Kenalog)
Producto preparado en una farmacia externa
Producto preparado en la farmacia hospitalaria

ANTI INFLAMATORIO TÓPICO INTRA OPERATORIO
25. ¿Usted administra de manera rutinaria un anti inflamatorio TÓPICO al finalizar lacirugía de catarata?
* *Marca solo un óvalo.*
Si → *Salta a la pregunta 26*
No → *Salta a la pregunta 27*

ANTI INFLAMATORIO TÓPICO INTRA OPERATORIO (DETALLES)
26. ¿Qué anti inflamatorio TÓPICO instila (no inyecta) al finalizar la cirugía decatarata? (puede marcar varias respuestas)
**Selecciona todos los que correspondan.*
Dexametasona
Prednisolona
Diclofenaco
Bromfenaco
Nepafenaco
Otro:

ESTEROIDE TÓPICO POST OPERATORIO?
27. ¿Usted prescribe/receta esteroide tópico POST OPERATORIO de manerarutinaria?
Marca solo un óvalo.
Si
No → *Salta a la pregunta 32*

ESTEROIDE TÓPICO POST OPERATORIO
28. ¿Qué esteroide TÓPICO prescribe/receta de manera rutinaria para su aplicaciónen el POST OPERATORIO?
* *Marca solo un óvalo.*
Dexametasona
Prednisolona
Flurometolona
Otro:

ESTEROIDE TÓPICO POST OPERATORIO (DETALLES)
29. ¿Cuándo le indica al paciente iniciar con el esteroide TÓPICO POSTOPERATORIO?
**Marca solo un óvalo.*
El día de la cirugía

Al día siguiente de la cirugía
El segundo día post operatorio

30. ¿Durante cuantas SEMANAS le indica al paciente usar el esteroide tópico POSTOPERATORIO?
* *Marca solo un óvalo.*
1
2
3
4
5
6
>6

31. ¿Le indica al paciente una pauta de disminución del esteroide tópico POSTOPERATORIO?
* *Marca solo un óvalo.*
Si
No

AINE TÓPICO POST OPERATORIO
32. ¿Usted prescribe/receta AINE tópico POST OPERATORIO de manera rutinaria?
**Marca solo un óvalo.*
Si
No → *Salta a la sección 23 (FINAL DE LA ENCUESTA. Por favor seleccione el botón ENVIAR para completar la encuesta)*

AINE TÓPICO POST OPERATORIO
33.¿Qué AINE TÓPICO prescribe/receta de manera rutinaria para su aplicación enel POST OPERATORIO?
* *Marca solo un óvalo.*
Ketorolaco
Bromfenaco
Diclofenaco
Nepafenaco
Otro:

AINE TÓPICO POST OPERATORIO (DETALLES)
34. ¿Cuándo le indica al paciente iniciar con el AINE tópico POST OPERATORIO
* *Marca solo un óvalo.*
El día de la cirugía
Al día siguiente de la cirugía
El segundo día post operatorio

35. ¿Durante cuantas SEMANAS le indica al paciente usar el AINE tópico POST OPERATORIO?
Marca solo un óvalo.
1
2
3
4
5
6
>6

36. ¿Le indica al paciente una pauta de disminución del AINE tópico POST OPERATORIO?
Marca solo un óvalo.
Si
No
FINAL DE LA ENCUESTA. Por favor seleccione el botón ENVIAR para completar la encuesta

Supplementary Table 1: Antibiotic prophylaxis depending on surgical volume

Annual surgical volume (cases/year)	Respondents (*n*)	Preoperative antibiotic (%)	IC antibiotic (%)	Topical NSAID (%)
<100	118	40.7	44.1	52.5
100–300	147	44.9	49.0	61.2
301–500	60	45.0	56.7	53.3
>500	82	48.8	57.3	62.2

IC: Intracameral, NSAID: Nonsteroidal anti-inflammatory drug