



Canadian Agency for
Drugs and Technologies
in Health

RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS



TITLE: Intracameral Antibiotics for the Prevention of Endophthalmitis Post-cataract Surgery: Clinical Effectiveness, Cost-Effectiveness and Guidelines

DATE: 20 March 2012

RESEARCH QUESTIONS

1. What is the clinical effectiveness of intracameral antibiotics for the prevention of endophthalmitis post-cataract surgery?
2. What is the cost-effectiveness of intracameral antibiotics for the prevention of endophthalmitis post-cataract surgery?
3. What are the evidence-based guidelines and recommendations for the use and preparation of intracameral antibiotics?

KEY MESSAGE

Evidence was identified pertaining to the clinical effectiveness of intracameral antibiotics for the prevention of endophthalmitis post-cataract surgery. No relevant evidence was identified for the cost-effectiveness or evidence-based guidelines for intracameral antibiotics in cataract surgery.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2012, Issue 2), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and abbreviated list of major international health technology agencies, as well as a focused Internet search. No methodological filters were applied to limit retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between July 1, 2010 and March 5, 2012. Internet links were provided, where available.

Disclaimer: The Rapid Response Service is an information service for those involved in planning and providing health care in Canada. Rapid responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources of the best evidence on the topic that CADTH could identify using all reasonable efforts within the time allowed. Rapid responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

Copyright: This report contains CADTH copyright material and may contain material in which a third party owns copyright. **This report may be used for the purposes of research or private study only.** It may not be copied, posted on a web site, redistributed by email or stored on an electronic system without the prior written permission of CADTH or applicable copyright owner.

Links: This report may contain links to other information available on the websites of third parties on the Internet. CADTH does not have control over the content of such sites. Use of third party sites is governed by the owners' own terms and conditions.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

Two randomized controlled trials and two non-randomized studies were identified that examined the clinical effectiveness of intracameral antibiotics for the prevention of endophthalmitis post-cataract surgery. No relevant health technology assessments, meta-analyses, systematic reviews, economic evaluations, or evidence-based guidelines were identified pertaining to intracameral antibiotics for the prevention of endophthalmitis post-cataract surgery. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

One randomized controlled trial (RCT)¹ assessed prophylactic treatment with cefuroxime compared to moxifloxacin for the prevention of acute post-operative endophthalmitis in patients following cataract surgery. The study found that 1% of patients that received prophylactic cefuroxime developed post-operative endophthalmitis compared to 0% of patients in the moxifloxacin arm. The second RCT² examined intracameral triamcinolone acetonide and gentamicin injections compared with dexamethasone and tobramycin combination eye drops in cataract surgery patients for the prevention of inflammation following cataract surgery. Endophthalmitis was not observed in any patients in either treatment arm.

Two non-randomized studies^{3,4} evaluated the rate of endophthalmitis following cataract surgery with prophylactic intracameral cefazolin treatment compared to no prophylactic treatment. In one study³, the rate of postoperative endophthalmitis in the no treatment cohort was 0.63% while the rate was 0.05% in the cefazolin cohort. In the second study⁴, the rate of postoperative endophthalmitis in the no treatment cohort was 0.064% while the rate in the cefazolin cohort was 0.01%. These studies demonstrate that the rate of postoperative endophthalmitis was reduced for patients that received cefazolin at the conclusion of cataract surgery.

REFERENCES SUMMARIZED

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

1. Malik R, UI Haq S, Rahil N. Efficacy trial of intracameral cerfuroxime vs. moxifloxacin as prophylaxis of acute post operative endophthalmitis in cataract surgery [Internet]. Ophthalmol Update. 2011 [cited 2012 Mar 15] Oct-Dec;9(4). Available from: <http://prime.edu.pk/Newsltr%20October%202011.pdf#page=42>
2. Simaroj P, Sinsawad P, Lekhanont K. Effects of intracameral triamcinolone and gentamicin injections following cataract surgery. J Med Assoc Thai. 2011 Jul;94(7):819-25.
[PubMed: PM21774289](#)

Non-Randomized Studies

3. Romero-Aroca P, Mendez-Marin I, Salvat-Serra M, Fernandez-Ballart J, Almena-Garcia M, Reyes-Torres J. Results at seven years after the use of intracameral cefazolin as an endophthalmitis prophylaxis in cataract surgery. BMC Ophthalmol. 2012 Jan 24;12(1):2.
[PubMed: PM22272570](#)
4. Tan CS, Wong HK, Yang FP. Epidemiology of postoperative endophthalmitis in an Asian population: 11-year incidence and effect of intracameral antibiotic agents. J Cataract Refract Surg. 2012 Mar;38(3):425-30.
[PubMed: PM22245169](#)

Economic Evaluations

No literature identified.

Guidelines and Recommendations

No literature identified.

PREPARED BY:

Canadian Agency for Drugs and Technologies in Health

Tel: 1-866-898-8439

www.cadth.ca

APPENDIX – FURTHER INFORMATION:

Review Articles

5. Yu CQ, Ta CN. Prevention of postcataract endophthalmitis: evidence-based medicine. *Curr Opin Ophthalmol.* 2012 Jan;23(1):19-25.
[PubMed: PM22081026](#)
6. Arshinoff SA, Bastianelli PA. Incidence of postoperative endophthalmitis after immediate sequential bilateral cataract surgery. *J Cataract Refract Surg.* 2011 Dec;37(12):2105-14.
[PubMed: PM22108106](#)
7. Chan E, Mahroo OA, Spalton DJ. Complications of cataract surgery. *Clin Exp Optom.* 2010 Nov;93(6):379-89.
[PubMed: PM20735786](#)
8. Fintelmann RE, Naseri A. Prophylaxis of postoperative endophthalmitis following cataract surgery: current status and future directions. *Drugs.* 2010 Jul 30;70(11):1395-409.
[PubMed: PM20614947](#)