

CASE REPORT



Retained intracameral chloramphenicol ointment following routine cataract surgery

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Abstract

Discuss a rare post-operative complication from routine cataract surgery. Routine cataract surgery is very common, retained intracameral chloramphenicol ointment is a post-operative complication that is rare but important to be aware of in practice. A 77-year-old lady was referred for routine cataract surgery. Although the case was uneventful and without intra-operative complication, follow-up the day after surgery revealed an intraocular foreign body in the form of a retained antibiotic ointment on the intraocular lens. Aspiration of the foreign body with lens exchange was performed and the patient was subsequently followed up without issue or further complication. Retained intraocular ointment can cause many deleterious effects, if addressed promptly and appropriately the patient can have a safe and satisfactory post-operative outcome.

Clinical Significance: Given the negligible evidence and the associated risks, applying ointment at the end of surgery, in our opinion, is not recommended.

Introduction

Cataracts are the second most common cause of bilateral visual impairment in Australia.^[1] Cataract operations account for approximately 2138 hospitalizations per 100,000 Australians over 40 years of age, highlighting the important role cataracts play in public health.^[2] As part of routine cataract surgery, intracameral antibiotics are used to reduce the incidence of post-operative endophthalmitis. They are generally well tolerated and the benefits outweigh the risks, but side effects have been reported including hemorrhagic occlusive retinal vasculitis.^[3] Antibiotic ointment applied to the ocular surface postoperatively is also used by some surgeons to reduce the incidence of infection. However, there has been at least one report of inadvertent intraocular ointment following cataract surgery causing various toxic effects including elevated intraocular pressure (IOP), macular edema, and corneal edema.^[4] The case presented here is further confirmation that chloramphenicol ointment applied to the ocular surface after cataract surgery can enter into the anterior chamber. We provide a discussion of management and follow-up.

Case Report

A 77-year-old lady with a history of bilateral cataracts and medically managed glaucoma was referred to our institution for consideration of cataract surgery. Her glaucoma was stable under the influence of travoprost nocte to each eye. Medical history included hypertension, osteoporosis, a hiatus hernia, and a right sided nephrectomy.

At pre-operative examination, her uncorrected visual acuity was 6/12-2 in the right eye and 6/12-1 in the left. With pinhole correction, her visual acuity improved to 6/9 in the right eye and 6/12+2 in the left. The IOP measured 10 mmHg in both eyes. Bilateral nuclear cortical 2+ cataracts were noted. Dilated fundus examination demonstrated symmetrical cup to disk ratios of 0.8 as well as macular drusen with normal appearing retinal peripheries.

A right phacoemulsification with intraocular lens implantation was performed under local anesthesia. Surgery was routine including insertion of an Abbott Medical Optics Model SI30NB + 21.00D lens into the capsular bag. Intracameral vancomycin was given (1 mg/0.1 ml). Topical chloramphenicol ointment was applied, after which the eye was padded and shielded. The patient was asked to follow-up the next day in the eye clinic for post-operative review.

Outcome and follow-up

On post-operative day 1, the uncorrected and corrected visual acuities of the operated eye were 6/36 and 6/36 + 1, respectively, and IOP was 21 mmHg. The anterior chamber was deep with 1+ cells and debris noted. Chloramphenicol ointment was seen on the anterior surface of the intraocular lens [Figure 1]. Given the findings, the patient was asked to continue chloramphenicol, dexamethasone, and ofloxacin drops QID and follow-up in 1 weeks' time.

On post-operative day 8, the patient was comfortable and only reported mild eyelid irritation on the right. The uncorrected visual acuity of the operated eye was 6/12-1 with IOP 15 mmHg. Chloramphenicol ointment was again noted on the IOL, unchanged in size and location from the last visit. A decision was made to attempt aspiration/washout of the ointment in theatre. This occurred on post-operative day 14. Aspiration of the ointment was attempted but complete removal was not possible. Therefore, an intraocular lens exchange was performed with the new IOL placed within the bag. The procedure was well tolerated without any complications of note. Intracameral antibiotics were given but no topical chloramphenicol ointment was applied.

The next day, uncorrected visual acuity of the right eye was counting fingers, improving to 6/36 with pinhole. The intraocular lens was positioned within the bag with an appropriate amount of inflammation. She was further followed up in 2 weeks with findings being similar with subsequent discharge back to her usual ophthalmologist for ongoing management of her glaucoma.

Three years later, she presented to the clinic for consideration of routine cataract surgery of the left eye, and at this time, no issues were noted in the right eye with stable IOP and a satisfactory refractive outcome of best corrected visual acuity in the operated eye to 6/5-3.

Discussion

Cataract surgeons can utilize a number of techniques to reduce the risk of endophthalmitis after surgery, with the most common evidence-based measures including sterilization with povidone-iodine and intra-cameral antibiotics.^[5-7] Using topical antibiotic drops in addition to intracameral antibiotics likely reduces

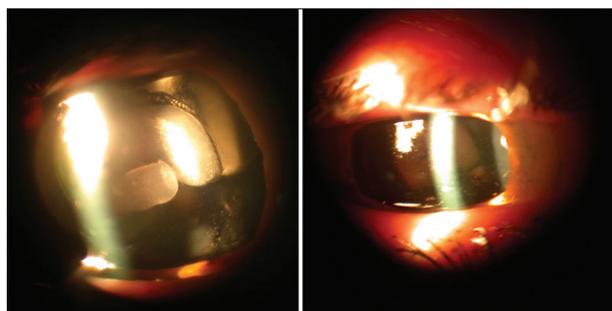


Figure 1: Slit-lamp photographs on post-operative day 1 examination showing the presence of chloramphenicol ointment on the intra-ocular lens.

the rate of post-operative endophthalmitis even further when compared with using only intracameral or topical antibiotic prophylactic treatment alone.^[7] Some surgeons choose to apply a small amount of antibiotic ointment to the ocular surface at the surgery's conclusion as it may have a secondary benefit of providing lubrication and protecting the ocular surface.

The presented case demonstrates there is a small but real risk of topical ointment migrating to the anterior chamber where it can cause unwanted effects including decreased vision, elevated IOP or prolonged intraocular inflammation. Surgeries utilizing clear corneal incisions in particular appear to be at a higher risk.^[8] The ointment may be inadvertently aspirated into the anterior chamber by negative pressure created by the removal of the eyelid speculum, pressure on the globe, or eyelid squeezing.^[9]

Retained intraocular ointment has been noted to cause complications, including macular edema, uveitis, secondary glaucoma, corneal decompensation, as well as toxic anterior segment syndrome.^[3,4] Considering the various toxic effects of retained ointment, interestingly, there has been a report of a case where ointment was noted in the anterior chamber 34 months after cataract surgery without any apparent ocular toxicity.^[10] However, we recommend removal of intraocular foreign substances, which are potentially pro-inflammatory to ocular tissue.

Conclusion

This case illustrates several key issues. First, the post-operative review is a vital component of ensuring safe outcomes following cataract surgery. Second, broad differential diagnoses should be considered for an opacification within the anterior chamber including retained intraocular antibiotic ointment if it is utilized by the surgeon intraoperatively. And finally, while retained intraocular ointment can cause many deleterious effects, if addressed promptly and appropriately the patient can have a safe and satisfactory post-operative outcome.

Clinical Significance

Given the negligible evidence and the associated risks, applying ointment at the end of surgery, in our opinion, is not recommended.

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