

Visual success following complications from multiple retinal detachments

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Citation

L Shecterle, J St. Cyr. *Visual success following complications from multiple retinal detachments*. The Internet Journal of Ophthalmology and Visual Science. 2009 Volume 7 Number 2.

Abstract

INTRODUCTION

Retinal detachment evolves from an isolated retinal tear or hole in which fluid enters and elevates the retina, resulting in acute partial visual loss and if left untreated can be permanent or can further progress to a state of blindness. Therefore urgency of treatment is paramount to preserve vision. Current surgical interventions have produced excellent outcomes; however, para-operative complications can arise as reported in this case report, and with serial ophthalmic evaluations and subsequent therapies can achieve an acceptable visual outcome.

CASE REPORT

A 53 year old male, myopic cardiovascular surgeon awoke from a night's sleep noticing a visual pattern of black spots traversing across the visual field of his right eye. This showering effect lessened within hours; however later that day, this pattern reoccurred and progressed to a perceived dense shadow or dark curtain effect in the lower left visual field of his right eye. He immediately presented to an eye institute and a retinal detachment was confirmed. The following day, the patient underwent repair of this retinal detachment with a vitrectomy, cryopexy/laser photocoagulation, pneumatic retinopexy, and episcleral buckle placement. The operation was uneventful and assumed successful; however, the days following the operation, the patient's right eye was extremely red and painful with drainage. Daily topical antibiotics and steroids produced no improvement. Frequent ophthalmic examinations were obtained and during one of these examinations an ocular aspiration revealed no intra-ocular infection. Approximately one month from the initial operative procedure, the patient awoke from a night's sleep experiencing another curtain visual defect in his inner visual

field of his right eye. An examination revealed another retinal detachment, for which he underwent successful cryopexy/laser photocoagulation and pneumatic retinopexy. For months following this second operation, the patient's eye remained reddened, mildly painful with daily drainage and serial examinations revealed an abundance of intra-ocular white cells. Oral steroids were added to the daily topical steroids. The patient had no appreciable visual acuity in his affected right eye. Another follow-up ophthalmic examination revealed similar clinical findings; for which the possibility of an infected scleral buckle was considered. It was recommended and agreed that the scleral buckle be removed. The culture of the removed scleral buckle and sampling of surrounding tissue grew Methicillin-Resistant Staphylococcus Aureus. Oral and topical antibiotics, as well as topical and oral steroids were immediately commenced and were continued for several weeks. The infection was successfully treated; however, a follow-up examination revealed the development of a cataract. Following multiple negative eye cultures, the patient underwent successful artificial lens replacement. Months following this procedure, multiple ophthalmic and visual acuity examinations revealed acceptable sight in his right eye with no evidence of any further infection.

DISCUSSION

Retinal detachment is a medical emergency, for which therapeutic delays can result in visual loss, including blindness. The life time risk for a retinal detachment in normal eyes is approximately 1 in 300 with a higher frequency in middle-aged or elderly individuals (20 in 100,000 per year).¹ A rhegmatogenous retinal detachment commonly occurs in individuals with severe myopia, as found in this patient.¹ Diagnostic advances and current surgical interventions have provided tremendous success in

treating retinal detachments. The ultimate goal in this visual emergency is to seal the retinal tear or hole and to achieve re-attachment of the elevated retina. Cryopexy and laser photocoagulation, vitrectomy, and the intraocular injection of adatomed silicone oil or pneumatic retinopexy have successfully achieved this goal. Furthermore, the implantation of a silicone scleral buckle changes the geometry of the eye, which provides a benefit in this reattachment, as well as reducing the risk of subsequent detachments. Furthermore, Mitra et al reported that a regional buckling procedure can produce less complications compared to a total encirclage approach.²

Surgical complications are not common, but can include redetachment of the retinal, endophthalmitis or intraocular infection, proliferative vitreoretinopathy, photopsia, epiretinal membrane and optic nerve disorder, for which further surgical intervention is commonly recommended. Patients presenting with a presumed post-operative endophthalmitis or infection should be aggressively treated with antibiotics coupled with frequent ophthalmic examinations. As in this patient, the source of the infection resided in the implanted episcleral buckle, which was removed. Some clinicians have suggested soaking of a silicone sponge/buckle with antibiotics prior to implantation.

Lorenzano et al. reported on a retrospective analysis in 1127 patients, who had undergone episcleral buckling surgery with three different models, one including the antibiotic soaking of the sponge/buckle prior to implantation. They concluded that soaking of a scleral sponge/buckle prior to implantation with antibiotics did not decrease the incidence of infection.³

Prompt assessment of visual symptoms due to a potential retinal detachment is crucial. Once diagnosed, current surgical therapies for retinal detachment have provided outstanding outcomes: however if and when complications arise, as in this patient, serial ophthalmic evaluations with subsequent therapy (ies) can offer a successful outcome. In the case of a questioned ocular infection, a possible infected episcleral buckle should not be ruled out even after negative intra-ocular cultures with persistent clinical findings.

References

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