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# **TO DETERMINE THE EFFICACY OF AN INTRACAMERAL STEROID AND ANTIBIOTIC COMBINATION IMMEDIATELY FOLLOWING CATARACT EXTRACTION IN REDUCING THE NEED FOR POST-OPERATIVE MEDICATIONS: A PILOT STUDY**

*Paul Koch M.D., Howard Amiel M.D.*

## **Purpose**

To determine if a combination of intracameral steroid and antibiotic, immediately following cataract extraction by phacoemulsification, could reduce the need for post-operative topical medications, specifically antibiotic and steroid drops.

## **Methods**

All patients undergoing routine cataract extraction over a 10-month period by a single surgeon were invited to participate in the study. They were all informed of the pre-operative and post-operative risks and notified of an early post-operative decrement in visual acuity relative to conventional cataract extraction with usual post-operative topical medications. An exclusion criterion was pre-existing glaucoma. All participants underwent cataract extraction by phacoemulsification via a temporal clear-corneal incision with topical anesthesia. At the conclusion of the surgery, following the insertion of a silicone lens in the capsular bag, all participants received 0.15cc of a commercially prepared solution of 2.0mg triamcinalone/30mcg ceftazidime/50mcg vancomycin/6mcg dexamethasone . The steroid and antibiotic mixture was delivered on a 27-gauge air injection cannula through a sideport incision into the capsular bag underneath the lens optic. The primary outcome was the need for topical steroids following surgery, determined by persistence of intraocular inflammation, specifically corneal edema. Secondary outcomes included visual acuity, the presence of cystoid macular edema, persistence of anterior chamber inflammation, and IOP. All patients were followed at regular intervals at approximately one day, one week, two weeks, three weeks, one month, and six months following surgery.

## **Results**

One hundred fifty four patients participated in the study. The average post-operative best corrected visual acuity at day one was 20/80, at two weeks 20/30, and at six months 20/30. Average IOP at day one was 24.4mmHg (range=10-54.4mmHg), at two weeks 15.1mmHg (range=8-30mmHg), and at six months 15mmHg (range=8-24mmHg). Average post-operative corneal edema at day one was 1.4, at two weeks 0.1, and at six weeks 0.0 (scale 0-4+). A total of 29 patients (18.8%) required post-operative topical steroids, which were initiated between 1-3 weeks

following surgery. A total of four patients developed CME-one patient with pre-operative diabetic retinopathy, one patient who developed CME one month following YAG capsulotomy, and two patients with ERM related macular edema.

### **Conclusion**

An intracameral injection of triamcinalone, ceftazidime, vancomycin, and dexamethasone delivered into the capsular bag immediately following cataract extraction by phacoemulsification appears to diminish the need for post-operative topical steroids. This procedure was safe and well tolerated although an early, transient post-operative intraocular pressure spike was noted in a number of patients. These data suggest that a larger, randomized study to confirm these results would be warranted.

# **TRANSCLERAL DIODE LASER FOR NEOVASCULAR GLAUCOMA**

*Lavkumar Panchal, M.D., Timothy You, M.D., Robert Bahr, M.D.*

## **Purpose**

To review the safety and effectiveness of diode laser in neovascular glaucoma from central retinal vein occlusion (CRVO).

## **Methods**

Review of records of 5 eyes of 5 patients with neovascular glaucoma after CRVO who underwent transcleral diode laser cyclophotocoagulation. Data was gathered for visual acuity, intraocular pressure, patient comfort level, and complications. Statistical analysis of the data was done by linear regression.

## **Results**

The mean follow-up period was 11 weeks (range 6-24 weeks). The mean procedure intraocular pressure (IOP) was 55mm of Hg and the mean post-procedure IOP was 17mm of Hg. The average decrease in IOP was 30 mm of Hg (69%) from the baseline pre-procedure IOP. All 5 eyes had stable or improved visual acuity at their last follow-up. All patients experienced increased comfort level in terms of pain and redness of the eye. There were no laser-related complications.

## **Conclusions**

Transcleral diode laser photocoagulation is a safe and effective mode of treatment in lowering intraocular pressure in patients with neovascular glaucoma after CRVO.

# **RISK FACTORS OF OCULAR INJURY AFTER ORBITAL FRACTURES**

*Gaurav Gupta, M.D.*

## **Purpose**

To evaluate risk factors associated with ocular injury after an orbital fracture.

## **Methods**

Retrospective review of 163 consecutive patients with orbital fractures who received full ophthalmologic examinations.

## **Results**

The incidence of ocular injury was 24% with 8% of patients incurring severe, sight-threatening ocular injury. Motor vehicle accidents (MVAs) with unrestrained drivers and assault victims were significantly correlated with increased risk of severe ocular injury. No restrained driver MVA incurred any ocular injury after orbital fracture.

## **Conclusions**

Orbital fractures sustained as unrestrained drivers in MVAs or as victims of assault are associated with the greatest risk of severe ocular injury.

# **ESTABLISHING A COMMON PRACTICE PATTERN FOR CATARACT SURGERY INFORMED CONSENT IN RHODE ISLAND**

*Xiaoqin Lu, M.D., Kent L Anderson, M.D., Ph.D., King W To, M.D.*

## **Purpose**

Assess current patterns and establish common cataract surgery consent guidelines.

## **Methods**

Surveys distributed to all Rhode Island ophthalmologists.

## **Results**

Among 81 ophthalmologists, 53 surveys were returned. Most surgeons personally obtained written, witnessed consent before surgery using discussion and standardized forms. Common risks explained were decreased vision, bleeding, and infection. Common complications that occurred were macular edema, capsular rupture, and capsular opacification. Most surgeons had a dissatisfied patient and half been involved in litigation.

## **Conclusion**

Common complications need to be better explained as risks. Establishing guidelines may better inform patients and lower the likelihood a dissatisfied patient will pursue litigation.

# **INCIDENCE AND RISK FACTORS OF ENDOGENOUS FUNGAL ENDOPHTHALMITIS IN A TERTIARY REFERRAL CENTER**

*Theodoros Filippopoulos, M.D., Molly E. Ritsema, M.D., Stacey Gorovoy, M.D., Kent L. Anderson, M.D., Ph.D*

## **Purpose**

Determination of the incidence and risk factors of Endogenous Fungal Endophthalmitis at Rhode Island Hospital and Hasbro Children's Hospital.

## **Methods**

The high reported incidence (9-45%) of Endogenous Fungal Endophthalmitis in cases of disseminated fungal disease has established the current clinical practice of ophthalmology consultation for every positive fungal culture or at least in cases where the clinical history is suggestive of fungemia. A retrospective review of 3309 inpatient consultations to the Department of Ophthalmology between 01/01/2001 and 04/30/2005 was performed. Seventy cases of documented fungal infections were identified with positive blood, abscess, deep aspirate (pleuritic or ascetic or synovial fluid), CSF or central catheter tip cultures.

## **Results**

The majority of the patients were positive for *C. albicans* (37%). 53% were already on fluconazole at the time of consultation, 25% on amphotericin, 7% on caspofungin and 5% on voriconazole. The mean age of the patients has been  $45 \pm 30$  years and 21/41 denied any ophthalmologic symptoms when evaluated. The median VA of their worst eye has been 20/30 but in almost 40% of the cohort visual acuity could not be evaluated. 5/70 patients (7.1%) were found to have chorioretinal infiltrates suggestive of fungal involvement. None of them manifested gross vitritis at the time of initial evaluation but 3/5 were only evaluated at the bedside secondary to co-morbidities. One patient manifested bilateral concentric enlargement of multiple chorioretinal infiltrates during the first week of treatment with caspofungin and expired before resolution of the lesions could be documented. As in every retrospective study selection bias cannot be safely excluded. Alone in 2004 Ophthalmology was only consulted in 18 cases out of the 55 fungal positive blood cultures drawn at Rhode Island Hospital.

## **Conclusion**

Prompt diagnosis/intervention along with high potency and safer side effect profiles of newer antifungal agents have altered the course of fungemia associated with a lower incidence compared to previous reports. Fungal chorioretinal infiltrates may be difficult to differentiate from other prevalent retinal lesions in patients that have co-morbidities such as DM, HTN, and leukemia especially in the setting of a bedside examination on patients with hazy media. Therefore vitritis or positive vitreous biopsy or pathology results are required to establish with certainty the diagnosis of fungal endophthalmitis. In our cohort none of the five patients met these criteria. Unfortunately even in patients with clinical histories and fundoscopic appearances most suggestive of fungal chorioretinal involvement a slit lamp examination could only be granted in a small subset of them, vitreous biopsy was not clinically indicated and the family refused autopsy. A prospective study investigating the incidence of Endogenous Fungal Endophthalmitis is under way.

# **SEVERITY AND OUTCOME OF OCULAR PAINTBALL INJURIES**

*Molly Ritsema, M.D.*

## **Purpose**

Review of ocular paintball injuries.

## **Methods**

We retrospectively reviewed 3956 emergency room consultations between 1/1/00 and 3/31/05 at our institution for the outcome of ocular paintball injuries.

## **Results**

Sixteen patients sustained ocular paintball injuries. Ten of the 16 patients were 18 years old or younger and 15/16 were male. The median initial VA was CF and the VA at the last visit was 20/200 (average 3.4 months). Ocular injuries included hyphema (14/16), corneal abrasion (9/16), vitreous hemorrhage (6/16), traumatic cataract and iridodialysis (3/16 each).

## **Conclusion**

Ocular paintball injuries continue to be a significant cause of severe visual loss.