POST OPERATIVE ENDOPHTHALMITIS: A CLINICO MICROBIOLOGICAL STUDY

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ABSTRACT: BACKGROUND: Post-operative endophthalmitis is a most devastating complication of post-cataract surgery. A thorough understanding of clinical signs, symptoms and micro biological aspect is most essential for treatment of endophthalmitis. **AIM:** To study the etiological agents. Clinical spectrum and final visual outcome after management of post cataract surgery endophthalmitis. **MATERIALS AND METHOD:** Retrospective study of 166 eyes with post cataract surgery endophthalmitis from 1999 to 2005. In all cases anterior chamber tap / vitreous tap / biopsy was taken and sent for smear and culture sensitivity. vancomycin amikacin and ceftazidime was injected intravitreally. **RESULT:** 59(35.5%) of 166 cases were smear and culture positive. Nocardia 26(46%) strep Pneumonia (9-13) (23%) staph epidermidis 10(18%) Pseudomonas 7(13%) staph aureus 2 % mixed 1%. **CONCLUSION:** Post-operative endophthalmitis is a devastating complication following cataract surgery can have a better visual outcome when treated early aggressively and optimistically.

KEYWORDS: Endophthalmitis, small incision cataract surgery, (SICS) intravitreal injection, vitreous tap.

INTRODUCTION:

AIM: To study the etiological agents. Clinical spectrum, disease progression and final visual outcome after medical and surgical management of post cataract surgery endophthalmitis..

METHODS: In this retrospective study 166 eyes with post cataract surgery endophthalmitis were included from JAN 1999 to JULY 2005. The diagnosis was based on clinical sign and symptoms of pain, poor acuity, Anterior chamber and vitreous reaction following cataract surgery.¹

A thorough ophthalmic and systemic history was taken for each patient. On each follow up the ocular examination included best corrected visual acuity, slit lamp biomicroscopy, indirect ophthalmoscopy, intra ocular pressure recording. Routine investigations included blood count, blood pressure, fasting blood sugar and ancillary tests, where required. In cases of media opacity posterior segment was assessed with serial USG -B scan.²

In all cases AC tap and vitreous tap / biopsy was taken and sent for smear and culture sensitivity testing.

Vancomycin (0.1mg in 0.1 ml) and amikacin (0.4mg in 0.1ml) and vancomycin and ceftazidime (2.25mg in 0.1ml) were injected intravitreally. Core vitrectomy was performed in cases with acuity less than hand movement as per EVS (Endophthalmitis vitrectomy study) recommendations. Repeat vitrectomy was done only in eyes showing worsening of inflammation. In one case intra ocular lens was explanted during repeat vitrectomy.

ORIGINAL ARTICLE

MICROBIOLOGY:³ All samples were examined under Grams. Giemsa and KOH smear and were inoculated in blood agar, potato dextrose agar and thioglycolate. Suspected fungal infections were inoculated in Sabourads agar media.

All patients received combinations of systemic antibiotics, hourly topical antibiotics and mydriatics. Topical and systemic steroids were started after culture reports.

RESULTS: 156 cases were above 50 years of age. 3 patients had diabetes, Pre operatively 25 ducts were not free but were culture negative for one day. The type of surgery performed was either ECCE (81) or SICS (85). PCR occurred in 17 case with vitreous disturbance in 15 cases.

All cases presented within 120 days of operation, 74 (44%) presented within 5 days, and signs at Uveitis in 106, vitrit is in 101, wound infection in 27(16%), iris nodule in 18 (In nocardia,) and absented glow in 28 cases. At initial presentation 152 cases were diagnosed as endophthalmitis, whereas 13cases were diagnosed as severe anterior uveitis and one case as corneal ulcer.

59 (35.5%) of 166 cases were smear and/or culture positive, nocardia 26 (46%), strept. Pneumonia 13(23%), staph. Epidermidis 10(18%), pseudomonas 7(13%), staph. Aureus 2, mixed 1.

The final visual outcome was useful vision ($\geq 6/60$) in 24. 10% and functional vision (1/60-6/60) in 19.88 cases. 39 eyes underwent core vitrectomy. 66.67% had functional visual recovery and 55%had a visual acuity of 6/9.

DISCUSSION: Post cataract surgery endophthalmitis is a serious complication, though not common, can result in loss of useful vision if not treated aggressively and Promptly.^{4,5} In EVS 69% was culture positive whereas in our study it was only 34% EVS data shows coagulase negative staphylococcus in most cases and no fungus was isolated, though insufficient, ^{6,4}dian data analysis shows fungal as most common organism(Gupta et. El), and Gram positive organism more common than Gram negative (Anand et. el.)

In our series interestingly nocardia sp. Was the most common isolate and no fungus identified. All nocardia species were resistant to penicillin and were found sensitive to sulfonamides and quinolones.Possible source of nocardia may have been the bare foot habits and poor feet hygiene of patients.^{6,7} The second most common organism isolated in our series was strept. Pneumonia, a common causative organism of respiratory tract infections. Patients or the surgeons nasopharynx may have been the source. In all pseudomonas cases the visual outcome was PL (Perception of light) or No PL and the course downhill was very rapid. None of our cases received intravitreal corticosteroids though recommended by EVS.⁷

In accordance to EVS. Our study shows that early vitrectomy is very effective in restoring vision.

CONCLUSION: Post-operative endophthalmitis a devastating complication following cataract surgery, can have a better outcome when treated early aggressively & optimistically.

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ORIGINAL ARTICLE

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Fig. 1

Fig. 2

Fig. 3

ORIGINAL ARTICLE

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