

Endophthalmitis: Operation Procedures and Different Antibiotic Therapies - The Mannheim Experience

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Aims

The aim of this study was to distinguish which form of peri- and postoperative antibiotal drug therapy in addition to surgical methods (pars plana vitrectomy or capsular bag irrigation) would lead to a favourable outcome in patients with postoperative endophthalmitis

Study design

Retrospective case series including all patients presenting with post-interventional intraocular inflammation from January 2002 until May 2008 to our department.

Methods and patients

Data from a total of 47 patients were accumulated retrospectively from the patient's charts. Microbiological samples were taken from the anterior chamber (in 70%) and/or from the vitreous cavity, (combination: 30%, only vitreotomy tap: 20%), in 10% an additional smear sample was sent off to Microbiology. Every patient received intraocular instillation of vancomycin® and refobacin® and topical antibiotic therapy with Refobacin fortified® eyedrops and Ciloxan eyedrops each five time a day.

Results

70.2% of patients required only one intervention. As second procedure silicone oil removal was preformed in 8.5%, secondary lens implant in 23.4 %, retinal detachment surgery in 2.1% and repeat surgery due to persisting symptoms 25.5%. The majority of patients (78.7%) were treated with pars plana vitrectomy plus administration of intravitreal antibiotics. Overall good control of inflammation was achieved with pars plana vitrectomy. Using capsular bag irrigation in 10 patients (21.3%), we saw 60% remission of inflammation, 40% needed further interventions. Overall in 72.3% of cases vision improved postoperatively with treatment in comparison to baseline visual acuity. In 74.5% useful vision was achieved (meter visual acuity). In 21.3% a vision on 0.5 or better was achieved.

The mean visual acuity in the vitrectomy group improved slightly from 0.02 ± 0.06 at baseline to 0.15 ± 0.23 postoperatively. Visual acuity (VA) development was considerably better in the patients who underwent capsular bag irrigation with 60% achieving 0.5 or better. Mean visual acuity improved in this group from 0.17 ± 0.20 at baseline to 0.51 ± 0.30 postoperatively.

The causative organism could be isolated and cultured in the anterior chamber of only 22 patients (46.8%).

Conclusion

As main result of this study the use of intravenous or oral antibiotics seems to have no crucial positive influence on the visual outcome for patients with postoperative endophthalmitis, as suggested in the Endophthalmitis Vitrectomy Study (EVS). Nevertheless, national and international guidelines for endophthalmitis treatment recommend systemic antibiotic therapy. Capsular bag irrigation could be an alternative procedure in patients with low grade endophthalmitis producing good visual outcome. To ensure a favourable outcome a highly individual operative approach is required.