Support grows for intracameral antibiotic

The ESCRS Study of Prophylaxis of Postoperative Endophthalmitis after Cataract Surgery was among the largest study of an antibiotic in the history of medicine. The primary conclusion of the randomised, placebo-controlled, multi-centre European study was that endophthalmitis following cataract surgery could be largely prevented through the use of an intracameral injection of cefuroxime. While the study conclusions have led to changes in practice in Europe, acceptance of the findings has been slower in the US. A new US study of the same scale as the ESCRS study could change this. Peter Barry MD, chairman, ESCRS Endophthalmitis Study Group, comments on the US study in a special JCRS editorial. The article by Shorstein et al. in this issue is the first published American study on the systematic use of intracameral antibiotics, with or without postoperative antibiotic drops, as prophylaxis against endophthalmitis following complicated and uncomplicated clear corneal phacoemulsification. Noting that the “similarities between this study and ESCRS study on endophthalmitis prophylaxis with intracameral cefuroxime are striking”, Dr Barry commends the researchers and concludes that rates of endophthalmitis found in these studies suggest a background rate of three per 1000 may be viable and realistic.


Swedish study

Sweden has perhaps the oldest registry of cataract surgeries in existence. In a prospective epidemiologic study, Swedish researchers collected endophthalmitis case reports from 2005 through 2010. Case and control parameters pertaining to patient characteristics and surgical technique were generated from the database. In addition, they analysed information from annual surveys regarding the topical prophylactic protocol. The reports showed that 135 endophthalmitis cases occurred in 464,996 operations, equating an incidence of 0.029 per cent. Patient age over 85 years, perioperative communication with the vitreous and, above all, nonuse of intracameral cefuroxime showed a statistically significant association with endophthalmitis in the logistic regression. Short-term topical antibiotics given as add-on prophylaxis to the intracameral regimen before, after or before and after the operation did not confer a clear-cut benefit. Groups with topical treatment were small, comprising 14 per cent of the sample.

E Friling et al., JCRS, “Six-year incidence of endophthalmitis after cataract surgery: Swedish national study”, Volume 39, Issue 1, 15-21

US study

Kaiser Permanente is a large health maintenance organisation whose privately insured members are treated entirely within a network of clinics and hospitals. It is known for economies of scale and for aggregating patient data. Researchers at Kaiser wanted to evaluate post-cataract-surgery endophthalmitis rates in relation to changing practice patterns in antibiotic administration. Over a four year period, they identified three time periods based on increasing adoption of intracameral injections after phacoemulsification cataract surgery. In 2007, patients primarily received postoperative antibiotic drops without intracameral injection. During 2008 and 2009, in addition to the surgeons’ usual postoperative topical drops regimen, patients received intracameral cefuroxime unless contraindicated by allergy or posterior capsule rupture. During 2010 and 2011, all patients received an intracameral injection of cefuroxime, moxifloxacin or vancomycin while topical antibiotics were used according to surgeon preference. The rates of postoperative endophthalmitis during these three periods declined with the adoption of intracameral cefuroxime prophylaxis. Nineteen cases of endophthalmitis occurred in 16,264 cataract surgeries. The respective rates per 1000 during the three time periods declined from 3.13, to 1.43, to 0.14.

NH Shorstein et al., JCRS, “Decreased postoperative endophthalmitis rate after institution of intracameral antibiotics in a Northern California eye department”, Volume 39, Issue 1, B-14.