ENDEPHTHALMITIS
Intracameral antibiotics becoming standard practice among European cataract surgeons
by Roibeard O’Hineachain in Milan

Awareness of the ESCRs Endophthalmitis Study has led to the adoption of the prophylactic use of intracameral antibiotics in cataract surgery by about three-fourths of centres participating in a recent survey reported by Peter Barry FRCs, at the XXX Congress of the ESCRs.

“Our survey showed that the majority of those who use intracameral antibiotics use cefuroxime and that only a small proportion would not use it under any circumstance, even if it was commercially available,” said Dr Barry, Dublin, Ireland.

Dr Barry and his associates conducted their survey to determine how widely European ophthalmologists have adopted the prophylactic use of intracameral antibiotics in cataract surgery in the six years since the publication of the ESCRs Endophthalmitis Study (Barry et al, J Cat Refract Surg 2006; 32:407-410).

The survey’s respondents included 193 cataract surgeons from 31 European countries, and were mainly surgeons on the ESCRs database. Of those surveyed 43 per cent were based in hospitals, 39 per cent were in private practice and the remainder were in university or government institutions.

Dr Barry noted that the ESCRs Endophthalmitis Study was a randomised controlled trial involving 1,600 patients undergoing cataract surgery. It showed that the rate of endophthalmitis among those receiving intracameral cefuroxime was only 0.05 per cent compared to 0.35 per cent among those who did not receive the antibiotic. “This was a surprise because this was, in a way, the antithesis of a clinical trial. What it actually demonstrated was the safety and efficacy of a drug that did not exist in commercial form. It’s probably the first time in the history of medicine that such a paradox has been achieved,” Dr Barry said.

As a result, everyone subsequently adopting the use of the agent did so on a “kitchen pharmacy” basis that would not be likely to gain approval by regulatory bodies in either Europe or the US, he added.

**Uptake high in Europe**

Dr Barry noted that 91 per cent of the survey respondents were aware of the ESCRs Endophthalmitis Study and its results, and 74 per cent said they always or usually use intracameral antibiotics for cataract surgery. Of those who used intracameral antibiotics, 82 per cent used cefuroxime, and 18 per cent used other agents, including intracameral vancomycin, moxifloxacin and gentamicin.

“I was quite surprised by the uptake of cefuroxime across Europe. If we had carried this survey out 10 years ago the use of intracameral cefuroxime would have been quite uncommon, and I think that there is still an apprehension using it because no commercial preparation is available,” Dr Barry said.

Among those who said that they rarely or never use intracameral antibiotics in their cataract procedures, 52 per cent said it was because they felt that there was no need to do so, and 26 per cent cited the lack of a protocol in their country or their clinic for their use. Another 16 per cent said they were concerned about the possibility of adverse events, while 10 per cent cited lack of a commercially prepared product. An additional six per cent said that they were worried about contamination risks.

**Single-dose** In their response to the question of whether they would use a commercial single-dose preparation of cefuroxime if one became available, 73 per cent said they would, 14 per cent said they would not and 13 per cent said they might use it on occasion. Dr Barry noted that 12 of the 27 respondents who would not use a commercial preparation would nevertheless use intracameral cefuroxime and were satisfied with the results, and saw no need to switch to a commercial preparation.

Conversely, the 73 per cent who said they would use it if it was commercially available included respondents who were not using it already. Therefore, only eight per cent of the 193 surgeons interviewed would not use intracameral cefuroxime, whether or not it was commercially available.

Dr Barry noted that the fears some cataract surgeons have expressed about the possibility of adverse events when using in-house preparation methods are not without grounds. There have been reports of mistakes in preparation of intracameral cefuroxime leading to disastrous outcomes in cataract patients. For example, at one hospital a contaminated multiple-dose preparation of cefuroxime resulted in eight cases of fusarium endophthalmitis.

“That is pretty frightening. If you didn’t use any intracameral antibiotics you would have to do a hell of a lot of cataract operations before you got that many cases of endophthalmitis,” Dr Barry said.

At another hospital, an incorrect dilution procedure led to a number of cataract patients receiving intracameral cefuroxime at a concentration 50 to 100 times higher than it should have been, and eight eyes were blinded as a result. “There are serious potential issues and that is the fundamental cause for concern with intracameral cefuroxime. If you used an unlicensed product in the United States and you had serious adverse events, your practice would be finished,” Dr Barry said.

However, help may soon be at hand. During the discussion portion of the session, Per Montan MD, Sweden, noted that if all goes according to plan, the drug manufacturer Thea will be launching a single-dose preparation of cefuroxime called Aprokam, specifically designed for intracameral administration.