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Sir,
Acute endophthalmitis after cataract surgery at a referral centre in Northern Taiwan: review of the causative organisms, antibiotic susceptibility, and clinical features

We read with interest the study by J-H Cheng *et al*¹ describing the bacterial isolates and treatment outcomes of endophthalmitis after cataract surgery at a referral centre in Northern Taiwan. However, there are a few issues that we would like to discuss, especially regarding the information on presenting and final visual acuity (VA) specified to the causative organisms, and the choice of the intravitreal antibiotics.

As the authors state, the poorer visual outcome in their study (only 7 (11.9%) of the 59 patients had a final VA of >20/40) may indeed be partly explained by the high percentage of more virulent organisms. Unfortunately, detailed information on both the presenting VA and the final VA for all types of bacterial cultures is not provided, except for the information that 1 (7.7%) out of the 13 patients with a bacterial culture of *Pseudomonas aeruginosa* achieved a final VA better than 5/200.

The presenting VA and final VA for the 8 patients with a culture of *Staphylococcus aureus* and the 25 patients with a negative bacterial culture would be of special interest, as the quantities of these groups make them major determinants in the overall final VA. In literature, the percentage of patients achieving a final VA >20/40 range from 20.0 to 45.0% for *S. aureus* and from 55.3 to 58.3% for a negative bacterial culture.^{2–4} As known from previous studies, presenting VA is a major determinant in final treatment outcome.^{2,5} Details on presenting VA and final VA, especially for *S. aureus* cultures and negative bacterial cultures, may therefore provide essential information on the poor overall outcome in their study and would improve the ability to compare their data with previous studies.

Regarding optimal antibiotic treatment, the authors correctly emphasize the importance of geographical variations as well as the need for periodic susceptibility

testing to anticipate (changes in) the microbiological spectrum and antibiotic sensitivities. Surprisingly however, they state that the use of vancomycin and amikacin still provides good coverage for pathogens after cataract surgery in their region, despite the fact that their own data do not support this statement. Their reported susceptibility to amikacin was 89.5% for Gram-negative isolates and 90.9% for Gram-positive isolates, compared with 94.7 and 100% susceptibility to ceftazidime. Using ceftazidime instead of amikacin may positively influence the future treatment outcome in acute postoperative bacterial endophthalmitis after cataract surgery for the population in Northern Taiwan.

Conflict of interest

The authors declare no conflict of interest.

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Sir,
Response to Pijl and Crama

We thank Drs Benjamin Pijl and Niels Crama¹ for their instructive comments regarding our article.² Benjamin Pijl and Niels Crama highlighted the following introductory statement: ‘The information of presenting and final visual acuity (VA) specified to the causative organisms and the choice of the intravitreal antibiotics.’

The aim of our paper was to show the spectrum of bacterial isolates that caused endophthalmitis after

cataract surgery at our tertiary referral centre in Northern Taiwan, and whether there were differences from findings in other regions. We found that *Pseudomonas aeruginosa* was the most commonly isolated organism ($n = 13$, 38.2%), and that 12 of 13 patients (92.3%) achieved the final VA worse than 5/200. We agree that details on presenting and final VA of *Staphylococcus aureus* and other negative bacterial cultures might have provided more information in our study. As we focused our findings on *P. aeruginosa* and their VA outcome, we provided the data concisely.

Using ceftazidime instead of amikacin led to a higher rate of antibiotic susceptibility in our study. Thus, concerns have emerged that ceftazidime may positively influence future treatment outcome in acute postoperative bacterial endophthalmitis after cataract surgery among the population in Northern Taiwan. We treated our patients with a regimen of intravitreal vancomycin and amikacin rather than vancomycin and ceftazidime. We thus concluded that the use of regimen (vancomycin and amikacin) still provides good coverage in our region.

On the basis of the results of antibiotic susceptibility in our study, one might argue that ceftazidime is better than amikacin in Northern Taiwan. A change in antibiotic sensitivity has been reported over the past two decades.³ It definitely needed to be periodically surveyed. However, there was in fact not enough clinical evidence in our study for the claim by Drs Benjamin Pijl and Niels Crama.

Obviously, further investigation should continue to provide information about post-cataract endophthalmitis. We appreciate Drs Benjamin Pijl and Niels Crama's interest and thank them for giving us an opportunity to consider an important point that we had not fully expressed.

Conflict of interest

The author declares no conflict of interest.

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Sir, OCT III imaging of whiplash maculopathy

I read with interest the remarkable description of whiplash maculopathy in a 24-year-old woman following a motor vehicle accident.¹ The authors point out that the patient noted a paracentral scotoma within hours of the accident. During the examination and on visual field testing 6 months later, a nasal parafoveal annular whitish lesion was noted and the scotoma could be documented by visual field assessment with laser beam and a Maddox cross, and quantified Octopus automated perimetry (10° centromacular field). Furthermore, the authors describe a change on optical coherence tomography (OCT) at the vitreoretinal interface.

After a careful review of the imaging, including the OCT, I note an additional finding that may be a more likely cause of the scotoma in this patient. The OCT image demonstrates a severe disorganization of the inner segment–outer segment (IS–OS) retinal pigment epithelial (RPE) layer signals. Parafoveally, on the side closest to the visual field images in the composite figure, and presumably representing the nasal macula, the outer retina–RPE layers are not separately visible. Specifically, the IS–OS junction is obscured in this area, while it is distinctly visible elsewhere on this OCT image.

The integrity of the IS–OS junction has increasingly become recognized as important for visual function. Reports in several conditions have shown that abnormalities in this layer are associated with poor visual function in the abnormal region, with decreased measured acuity or corresponding scotomata.^{2–4}

Reinterpretation of the OCT image would thus suggest that the cause of the scotoma in this case of whiplash maculopathy may be disruption of the outer segment architecture, and not a small area of increased reflection at the vitreoretinal junction. This interpretation is supported by the findings of Parsons *et al* in an autopsy case of whiplash maculopathy, which demonstrated the pathologic features of retinoschisis between the photoreceptor nuclei and the intact, but folded, photoreceptor inner and outer segments and RPE detachment.⁵ This alternative interpretation of the OCT image may more plausibly explain the scotoma in this patient and in whiplash maculopathy in general.

Conflict of interest

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