Author's response to reviews

Title: Post-cataract endophthalmitis caused by multidrug-resistant Stenotrophomonas maltophilia: Clinical features and risk factors

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Author's response to reviews: see over
Dear Dr Chen and Dr Houghtaling,

We appreciate the constructive suggestions from yours and revised the manuscripts accordingly. The following is the point-to-point answer to the reviewers’ questions.

Reviewer 1: Dr Chen

Major/Minor revisions:

1) The methods could be better described because it is unclear how you came to the conclusion that the cassette was the source of the infection. Further explanation of how the data was collected and the timing of the collection would be helpful. At that time of diagnosis of endophthalmitis after cataract surgery, how was the original tubing and cassette recovered for culture?

   We added the details in the method section. Please see Page 5 Line 5-10. “At the beginning, just the irrigation tubes and other surveillance samples were tested and the results were negative. The fluids collected from aspiration tubes of phacoemulsifiers were not analyzed until a specialist in hospital hygiene was consulted on April 1, 2011. On April 7, the report showed that S. maltophilia was positive and multi-drug resistant from aspiration tube of one phacoemulsifier (Stellaris, Bausch & Lomb, Rochester, NY, USA). Then the planned surgeries using that machine were cancelled immediately on April 8, no endophthalmitis happened again.”

   When the endophthalmitis was diagnosed, we could not check the original tubing and cassette which were used several days or weeks ago. Actually, we tested the tubing and cassette of the following new surgeries on the same machine to trace the source of the infection.

2) It is mentioned that the source of the bacteria was the contaminated drainage cassette. How can that be concluded if a new drainage bag or cassette is used everyday as stated in the Methods section? Also, a better diagram about how there is a connection between aspiration and irrigation could be helpful in visualizing how the tubes can become contaminated.

   Theoretically, after one patient was finished, the cassette should be replaced for another patient. However, for the economical reason, we usually use the same machine with the same cassette to do a lot of surgeries for many patients at the same day. Page 9 Line 12-Figure 4a and 4b show the potential connection between aspiration and irrigation of the cassette.
Figure 4. (a) Fluid containing dye was injected into the aspiration tube with a syringe. (b) The fluid containing dye can be seen traveling from the aspiration tube to the irrigation tube of the drainage cassette assembly, with an I/A set (BL5113) from a Stellaris 1.8-mm Stablechamber phaco pack with a MICS needle. The arrow shows the direction of the fluids.

3) Please describe any inclusion or exclusion criteria if any. Were patients excluded if they did not have the minimum follow up time of 12 months?

We added the exclusion criterion in Page 4 Line 6. “The patients without vitreous inflammation were excluded.” All the patients were cooperative and had the minimum follow up time of 12 months.

4) Can you explain why visual prognosis was not good for diabetic patients in this study in the discussion section?

Yes, we added the reason in Page 12 Line 16-18. “His serious fundus lesions led to the worst vision in all patients. The infection aggravated the proliferative diabetic retinopathy. Total tractional retinal detachment was developed. PPV with silicone oil tamponade were then performed.”

5) Under “treatments” section, how was the decision to proceed with PPV or IOL exchange made? What was the clinical criteria?

We added the details in Page 6 Line 5-7. “Immediate PPV was performed in patients who had light perception (LP) visual acuity first, then in patients with the visual acuity of hand motion (HM) later. IOLs were extracted primarily from the diabetic patient with severe inflammation and the high myopic patient with the negative power of IOL.”

6) What is the recommendation in sterilization technique and use of tubing by the company making the phacoemulsification machine? How is this machine different from the other ones that are being used at the same hospital?
The recommendation is that the drainage cassette of the machine should not be resterilized for reuse, just as said in the last sentence of the article. The other machines do not have a connection involving aspiration fluids and irrigation tubes. (Please see Page 9 Line 13-14)

7) Please explain any limitations to the study.

We added the limitation in Page 13 Line 14-16. “A limitation of our study was that the pathogen involved in the negative endophthalmitis cases was perhaps not S. maltophilia, the inclusion criterion included the same ocular signs, and usage of the same machine during the outbreak period.”

8) It would be interesting to compare the patients who developed endophthalmitis from the organism versus the patients who did not even though the same phacoemulsification machine was used. Did these patients have different risk factors?

We do have compared the differences, as stated in Page 9 Line 2-3. The risk factors were older age (i.e., over the age of 90 years) and posterior capsule rupture. High myopia was not the risk factor.

Reviewer 2: Dr Houghtaling

1. Minor essential revisions. Page 5 line 18- Spelling of tobramycin

We changed “tobromycin” to “tobramycin” in new Page 6 Line 1, previous Page 5 Line 18.

2. Discretionary revisions. Stating the source for culture (from tap and injector or from PPV) and if it was significant difference in culture positive vs culture negative group

We added the statistical results. Please see Page 7 Line 18-21. There was no significant difference in culture positive vs. culture negative group.

3. Discretionary revisions. Authors acknowledge that culture negative group could be from different organism but state same clinical presentation as potential reason S. maltophilia as offending organism. However, time to presentation as well as response to therapy were cited as different between the two groups making statement “S. maltophilia-induced PE of 14 patients” more difficult

We changed “Clinical presentation” to “ocular signs”. And we also explained this limitation to the study at the end. “A limitation of our study was that the pathogen involved in the negative endophthalmitis cases was perhaps not S. maltophilia, the inclusion criterion included the same ocular signs, and usage of the same machine during the outbreak period.”
Sincerely,

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