Author's response to reviews

Title: Infectious endocarditis caused by Helcococcus kunzii in a vascular patient: a case report and literature review

Authors:

Romain Lotte (lotte.r@chu-nice.fr)
Laurène Lotte (lotte.l@chu-nice.fr)
Nicolas Degand (degand.n@chu-nice.fr)
Alice Gaudart (gaudart.a@chu-nice.fr)
Sylvie Gabriel (sgabriel@chpg.mc)
Mouna Ben Hedch (mona_lisa_69@hotmail.fr)
Blois Mathilde (blois.m@chu-nice.fr)
Jean-Paul Rinaldi (jrinaldi@chpg.mc)
Raymond Ruimy (raymond.r@chu-nice.fr)

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Author’s response to reviews: see over
5th May 2015,

Dear Dr Jasper Chan

Thank you for your email (21 April 2015) regarding our manuscript MS: 1389930607152034 entitled: « Infectious endocarditis caused by Helcococcus kunzii in a vascular patient: a case report and literature review ». We have modified the manuscript in response to the insightful comments of the referees, and feel that this has increased its focus and clarity.

We are grateful to the referees for these improvements. Below, you will find the point-by-point responses to the reviewers’ comments.

We look forward to hearing from you (on behalf of all co-authors),

Yours sincerely,

Romain Lotte
Reviewer #1:

This report adds to the evolving understanding of the role of H kunzii in human disease.

We thank reviewer#1 for this comment.

However, certain revisions are recommended.

Major Compulsory Revisions:

1. The patient had an abdominal aortic aneurysm with stenting performed. Was there any evidence of an infected aortic vascular graft during this episode? This might have served as an endovascular focus of infection that subsequently seeded the heart valve. Note that H kunzii has been documented to cause intravascular prosthesis infections. (McNicholas S et al).

This is an insightful comment. After an in depth review of patient record, we can say that there were no obvious evidence of an infected aortic vascular graft during this episode. Abdominal physical examination was normal. Abdominal computed tomography (CT) was performed. It did not show any evidence of perigraft fluid or any other sign that represent a high index of suspicion of intravascular prosthesis infection. Nuclear imaging explorations (WBC-scan and PET-CT) were not indicated and therefore not performed for this patient, since abdominal CT did not show any evidence of infected aortic vascular graft.

For more accuracy, the sentence: “Of note, abdominal computed tomography did not show any perigraft fluid or other evidence of suspicion of an infected aortic vascular graft” was added to the revised manuscript (lines 77-79).

2. Please give the indication for the heart valve replacement in this patient.

In this patient, the major indications for the heart valve replacement were the length (28.66mm) and the mobility of the vegetation on the mitral valve. Indeed, according to the European Guidelines on the prevention, diagnosis, and treatment of infective endocarditis published by the European society of cardiology (ESC) vegetation length (>15mm) is a strong predictor of new embolic-event and is therefore an indication for a heart valve replacement within a few days after diagnosis (reference [9] in the revised manuscript). Further more, the severe mitral valve regurgitation (3D color Doppler) also supported the indication for valvular surgery in this patient.

Changes have been made in the revised manuscript to precise the indication for the heart valve replacement in this patient (lines 109-111).

3. Pg 6, Line 155: In fact, the patient only met ONE major criterion of the modified Duke's criteria, which is evidence of endocardial involvement supported by new valvular regurgitation murmur and echocardiogram findings. On the other hand, as he had fever, he
had THREE minor criteria. Therefore, he fulfilled the clinical criteria for IE by having 1 major and 3 minor criteria. Please revise.

The correction has been made in the revised manuscript (lines 158-161).

4. In table 2, include the case of brain abscess due to H kunzii by Sridhar et al, J Clin Microbiol, 2014

As rightly suggested by the reviewer#1, the case of brain abscess due to H. kunzii published by Sridhar et al. has been included in the table 2. The case was also cited in the revised manuscript (lines 155-156 and reference [19]).

5. The finding of reduced susceptibility to gentamicin is important as gentamicin is frequently prescribed in combination with beta-lactams for empirical coverage of infective endocarditis. Authors should include this point in the discussion and discuss their opinion on optimal antimicrobial regimen for H kunzii infective endocarditis based on the sensitivity results of their isolate and other isolates in the medical literature. Reduced susceptibility of H kunzii to aminoglycosides has also been previously demonstrated by Sridhar S et al.

This is a relevant comment. Several authors have already reported reduced susceptibility to aminoglycosides either gentamicin or amikacin (references [4,11,18-19] in the revised manuscript). On the other hand, Lemaître et al. isolated a strain that was susceptible to gentamicin (reference 16 in the revised manuscript). In our case, the patient was successfully treated by a medico-surgical approach. The treatment consisted in a combination of intravenous amoxicillin and gentamicin followed by amoxicillin monotherapy during four weeks, and mitral valve replacement with a bioprosthetic valve. Considering all these data, and the well-established synergistic activity of a β-lactam-aminoglycoside association, such a combination might be an optimal antimicrobial regimen for IE caused by H. kunzii, even if the isolate displays reduced susceptibility to aminoglycosides. Further studies are still needed to assess this hypothesis.

A new paragraph has been added in the discussion in the revised manuscript (lines 168-179).

Minor Essential Revisions

Spelling error of "cefotaxime" in Table 1

The correction has been made in the Table 1.

Discretionary Revisions

1. Please consider an alternative for the term "polyvascular patient" in the background and conclusion such as "patient with polyvascular disease"

The corrections have been made in the revised manuscript (lines 44, 58 and 181-182)
2. Provide details of the valve histology, if available to enrich the report further.

The valve histology was not available in this case (the valvular material has not been sent to the laboratory for histopathological analysis).

Reviewer #2:

Reviewer's report:
In this article, Lotte et al. describe the first case of infective endocarditis caused by Helcococcus kunzii in an elderly polyvascular patient. In addition, the authors performed an exhaustive review of the literature. The text is clear and concise. The only negative point is the absence of results concerning the bacteriological analysis of the mitral valve by 16S rDNA PCR-sequencing. The bacteriological analysis is very well led with well-supported technical arguments.

We thank the reviewer two for these comments.

Line 134: replace “16r DNA” by “16S rDNA”.

The correction has been made in the revised manuscript (line 137)