Author’s response to reviews

Title: Corynebacterium mucifaciens in an immunocompetent patient with excavated pneumonia

Authors:

Félix Djossou (felix.djossou@ch-cayenne.fr)
Marie-Christine Bézian (marie-christine.bezian@chu-bordeaux.fr)
Anne Le Flèche (alefleche@pasteur.fr)
Daniel Moynet (daniel.moynet@u-bordeaux2.fr)
Denis Malvy (denis.malvy@chu-bordeaux.fr)

Version: 2 Date: 10 October 2010

Author’s response to reviews:

Dear Editor,

Please find attached our revised manuscript "Corynebacterium mucifaciens in an immunocompetent patient with excavated pneumonia" that we wish to resubmit for publication. This version has been very extensively revised on the basis of the reviewers comments and suggestions.

Please find below, a point by point response to all the reviewers comments. Of note, three relevant references have been added and the Figure 3 has been changed to a more convenient presentation.

We believe that the revised manuscript is very much improved and are greatful to the reviewers for stimulating such re-writing.

We hope this revised version will match your requirements and thank you again for your consideration.

Kind regards,
Pr Denis Malvy

REVIEWER 1

This manuscript is a case report of an apparently immunocompetent patient with cavitary pneumonia due to Corynebacterium mucifaciens. This is interesting since C. mucifaciens has only recently been identified as a new species and only few reports have confirmed its pathogenic potential in humans so far. It may be the first reported case of a cavitary pneumonia due to this organism.

The original point regarding this first report of cavitary pneumonia related to C. mucifaciens infections has been added in the text.

Major Compulsory Revisions:

Case report, 2nd paragraph:
1. acid production from maltose is not reported with C. mucifaciens according to Funke G, Bernard KA. (page 482) in the Manual of Clinical Microbiology, 8th ed. Please comment since the species determination was apparently not straightforward and the literature is confounded by misclassification of coryneform bacteria.

Indeed, biochemical identification tests results obtained using API Coryne have been conducted twice. The second analysis for phenotyping tests which has been conducted in the National Reference Laboratory for Corynebacterium to confirm and check for interpretation of initial findings or misclassification discrepancy results has stated the lack of acid production from maltose, consistently with indications provided by The Manual or Ref. 8. Furthermore, molecular methods with 16S rRNA gene sequence analysis definitely confirm the correct identification of the isolate in the species. These issues have been emphasized and clarified in the revised version.

Minor Essential Revisions:
Case report, 1st paragraph:
2. “… country of origin.” (instead of “genuine country”).
The sentence has been corrected

3. how was HIV infection ruled out? Please clarify (HIV test?)
HIV infection was ruled out using serological testing. The information has been added in the text.

4. were there any comorbidities (in particular immunosuppression) of the patient, any coinfections, did he take medications (in particular steroids)? Was there a smoking history, history of alcoholism, drug exposure?
The only comorbidity reported was a history of type II diabetes mellitus. Other causes of immunosuppression were also ruled out. On questioning the patient, there was no current (or history of) alcoholism, tobacco use, or any drug exposure.

Did the patient have sick contacts? Contacts with animals (you mention later on that he had exposure to horses and horse premises: I suggest you mention this here and possibly in more detail)? Any particular hobbies? What was the travel itinerary? What was he doing in the Maghreb, visiting friends and family; were they sick?

As detailed in the revised version, the purpose and conditions for travel were referring to the annual stay for visiting his family in a rural farm environment. Of note, the patient denied any concommitent acute illness in his relatives.

5. What was the time interval between travel and onset of symptoms?
The onset of symptoms was 2 weeks after arrival.

6. If a procalcitonin value is available, please report it.
This information has been reported.
Case report, 2nd paragraph:
7. “…alkaline phosphatase, “
The expression has been corrected.

Case report, 3rd paragraph:
8. What was the dosing of the antibiotic therapy?
No dosing of the antibiotic was available.

9. Please describe the outcome of the patient in more detail (clinical resolution?
Radiographic course if available? Any residual disease?)
The informations concerning the outcome of the patient, particularly the
radiologic course have been detailed in the Case presentation section.

Discussion, 1st paragraph:
10. “…cultures obtained…” (instead of “made”)
The term has been corrected.

Discussion, 2nd paragraph:
11. “…coryneform bacteria…” (not capitalized)
The term has been corrected.

12. “Thereby, a potential critical issue…”
The sentence has been corrected.

13. It may be interesting to summarize previously reported risk factors and
exposures for patients with C. mucifaciens, the geographic areas where
infections were reported, treatments and outcomes of patients. Was ever horse
exposure reported?
Unfortunately, detailed clinical information on underlying diseases, risk factors for
patients was generally not available. Moreover, clinical details level defer in the
three bacteriological research studies available for infection with C. mucifaciens.
So, it seems very difficult to compare these studies. However, we added in the
discussion section all available and relevant data concerning the geographic
areas where infections were reported, treatment and outcome of patients. To the
best of our knowledge, horse exposure has not been yet reported.

REVIEWER 2
This case report describes the occurrence of a single case of Corynebacterium
mucifaciens pneumonia in an immunocompetent patient.

Major Compulsary Revisions
1) The title would be more correct if it referred to “cavitating” or “cavitary” pneumonia – the authors use the latter term in the case report.
Title and terms have corrected according to the reviewer comments

2) However having indicated the above, I am not certain that I can see a cavitating/cavitary pneumonia on the CT scan, given that it is a black and white printout of the scan. There does appear on the scan to be an area of opacification with a small area of lucency within it, but I wondered whether this was not an air bronchogram, rather than a cavitating pneumonia?
Imaging procedures including CT Scan findings, support our diagnosis. Hence, the imaging exams have been reviewed independently by two senior radiologists who confirmed the diagnosis of cavitary pneumonia.

3) Although the authors indicate that the patient was not HIV-infected, could the patient have had another form of immunocompromise, such as immunoglobulin or cellular immune defects? Are such deficiencies described in patients with such infections and are there any recommendations with regard to looking for such deficiencies?
Other causes of immunosuppression have been ruled out, i.g. common variable immunodeficiency, subclass immunoglobulin suppression defects or any malignancy. The only significant co-morbidity was type II diabetes mellitus.

4) Why was the patient treated with rifampicin-spiramycin? What is the recommended therapy for this infection? The authors should add some detail on recommended therapy in the discussion section.
Treatment was initiated on the presumed diagnosis of Rhodococcus infection. As the patient’s condition improved, we choose to keep on the same treatment when result from blood cultures definitely identified the causative organism. Moreover, there is no consensus for the treatment of such unusual infection.

5) Do the authors have a follow up chest radiograph/CT scan and if so what did it/they look like? The authors should, at least, describe the radiographic changes and their progression.
The follow-up chest radiograph/CT scan showed consistent improvement over time according to the clinical picture. These points have been added in the case report.