Author’s response to reviews

Title: Virulence characteristics of multidrug resistant biofilm forming Acinetobacter baumannii isolated from intensive care unit patients

Authors:

Habib Zeighami (zeighami@zums.ac.ir)
Fatemeh Valadkhani (f.valadkhani@yahoo.com)
reza Shapouri (rezashapoury@yahoo.com)
Elham Samadi (elhamsamadi.microbiology@gmail.com)
Fakhri Haghi (haghi@zums.ac.ir)

Version: 1 Date: 25 Jun 2019

Author’s response to reviews:

Dear Editor of BMC Infectious Diseases

We edited manuscript point by point according to comments. All edited sections showed as highlighted fonts.

Reviewer reports:
Nasrollah Sohrabi (Reviewer 1): Dear Authors, Thank you for your valuable manuscript.

Comments:
1- Please add the results of Antibiotic susceptibility testing which you did it previously.
Response: Antibiotic resistance patterns of A. baumannii isolates added in the manuscript as Table 2.

2- Please add the image of REP-PCR typing of isolates.
Response: The image of REP-PCR added in the manuscript as Fig 1.

This manuscript is acceptable for publication after minor revision.

Juan J Camarena, PhD, MD (Reviewer 2):

The manuscript INF-D-19-00642 "Virulence characteristics of multidrug resistant biofilm Acinetobacter baumannii isolated from intensive care unit patients" is an interesting article about an important problem in some geographic areas to world-wide level. The authors analyze the paper of Acinetobacter baumannii in the virulence and morbi-mortality in intensive care patients, in several
aspects: multiresistance, biofilm formation and related genes, integron characterization and REP-PCR molecular typing.

The approach of the work and methodology used are, from my point of view, suitable, although I consider it would be interesting to clarify some concepts:

1.- Methods:
1.a.- Bacterial isolates (page 4, line 40): They study a total of 100 A. baumannii clinical isolates from immunocompromised patients hospitalized in ICU. It does not differentiate between possible colonization in this patients. All the isolated presented association with clinic or some were considered colonization? (v.g. In the case of respiratory samples or wound swabs).

Response:
This section edited in the manuscript as:
In our previous study, a total of 100 non-replicate A. baumannii clinical isolates were randomly recovered from different specimens including blood, sputum, wound swabs, chest tube secretions and urine from immunocompromised patients with symptomatic clinical infections at least 48 hours after ICU admission [2]. Case patients were defined as patients infected by A. baumannii according to the Centers for Disease Control and Prevention criteria. The patients who were colonized with A. baumannii and immunocompetent patients were excluded. Informed consent and ethical approval was obtained from management of the hospitals prior to the study.

Comment: All the isolated were of patients immunocompromised patients. There were no isolates of immunocompetent patients? And if it is like this…Why were not included?
Response:
All the patients we selected were immunocompromised and we did not collected clinical samples from immunocompetent patients. The patients who were colonized with A. baumannii and immunocompetent patients were excluded.

The previous selection of these isolated could modify the results obtained?
Response:
All isolated A. baumannii were preserved in glycerated TSB in -80 ºC.

1.b.- Antimicrobial susceptibility testing (page 5, line 4). They have not included in the antimicrobial susceptibility assay colistina, kanamicina or tigeciclina, used for the treatment of these multiresistant infections. I think percentages of MDR and XDR would remain modified if they added these antibiotics. It would be interesting to include them if it is possible.

Response:
According to CLSI 2017 guidelines, Kanamycin and Tigecycline are not used for antimicrobial susceptibility testing of Acinetobacter baumannii. For colistin, there is not Zone Diameter Breakpoints for disk diffusion method in Acinetobacter baumannii. So, We could not capable to detect susceptibility to these antibiotics.

2.- Results:
2.1.- Antimicrobial susceptibility (page 7, line 35): ---"Futhermore, 32% of isolates were resistant to all tested antibiotics and 91% were XDR." I think that if 91% of the isolates were XDR, the "All strong forming A. baumannii isolates were XDR" or ..."All class I integron carrying isolates were XDR" statements are obvious. It would be necessary to try separate those sensitive isolates to the no tested antimicrobials to evidence these affirmations.
Response: According to comments, authors deleted these sentences from manuscript.

2.b.- REP-PCR (page 8, line 46): It doesn’t remain clear in the work (it would be necessary to add) the possible correlation of some clones and the greater or lower virulence in the cases analysed. Could add some data and discussion in this regard?
Response: Correlation between REP types and biofilm related genes among A. baumannii isolates added as Table 7 and described in the manuscript text.

Formal appearances:
Page 8, Line 16-17: …"Table 3. 98% of isolates…” : Write 98% in letters, no in number.
Response: All comments edited in the manuscript.