Reviewer's report

Title: Dissemination of Imipenem-Resistant Acinetobacter Baumannii with New Plasmid-Borne BlaOXA-72 in Taiwan

Version: 2 Date: 23 May 2013

Reviewer: Gabriela Da Silva

Reviewer's report:

The paper reports the emergence and spread of bla(OXA-72) in Taiwan due to clonal spread and plasmid dissemination. The study describes a new genetic environment for OXA-72 determinant, suggesting that there was some form of recombination relatively to a prevalent plasmid previously reported in the region.

The study reports relevant and new data. The introduction is fine, and the question posed is well addressed by the methodology. The design of the scientific work is well done. In general, the results are clear but there are few remarks. However, the discussion could be improved by a re-organization of the text (suggestions and comments below), by not repeating conclusions, and be more precise.

The references should be thoroughly reviewed. Two are identical.

Figures should be checked for legends and corrections.

Below are the specific comments.

Discretionary Revision

Results


Lines 179-182. (Line 58 in abstract): Why do you say that defined clones are closely related? The clones were defined with a percentage of genetic similarity above 85%. Suggestion: refer only two distinct and major clones (A and B).

In this section, the authors should mention that isolates carrying OXA-72 determinant did not belong exclusively to these two clones, and indicate the percentage of homology of the remaining isolates relatively to these two major clones. Isolate 1765 should be highlighted, since it carries a plasmid not identical to the other isolates (and it will introduce the next section).

Line 210. Indicate something about strain Ab290 (clinical, previous study…).

Discussion

The discussion begins with a summary of the results of the study, the main conclusions.

The discussion would be improved if re-organized. For example, the first sentences of the second paragraph (line 228) could be the beginning of the
discussion and introducing the topic. Not all the readers will analyze carefully the results, and some points should be clearer.

The authors concluded that both clonal spread and plasmid dissemination played a role in the spreading of bla(OXA-72). This conclusion is mentioned three times in the discussion (line 225, line 246, line 262). This should be corrected (re-organization).

Line 220. The first sentence refers that 291 A. baumannii were collected and two major clones of IRAB were disseminated. The sentence should be precise. Not all the 291 isolates were imipenem-resistant, and of those, just a small percentage carried OXA-72 determinant. This must be clear.

Line 224. Here, the authors mention the presence of OXA-72 determinant in other clones. See comments in Results.

Line 229. It is stated that class D beta-lactamases are the main mechanism of resistance to carbapenems in A. baumannii. However, of the 115 IRAb only 27 carried the bla(OXA-72), and other OXA beta-lactamases and metallo-enzymes were not found. This should be discussed. OXA-72 may be emergent, but it is not prevalent relatively to carbapenem resistance.

What is the relevance of knowing the genetic environment of the bla(OXA-72)?

Minor essential revision

Title. Acinetobacter baumannii

Abstract

Line 52: “Clonality” and “pulse field gel electrophoresis”

Line 55: “imipenem resistance”

Figures.

Figure 1. Pulse field gel electrophoresis, Figure 2 should not be figure 3?

Figure 2. The legend should indicate the isolates tested, and the type of Marker.

References

Check italics and incomplete references, namely in references: 5, 7, 16, 24

References 22 and 23 are the same. Correct the list of references, including in the manuscript text (in Material and Methods, lines 148-155)

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.