Reviewer’s report

Title: An outbreak of multidrug-resistant Acinetobacter baumannii associated with bronchofiberscopy in an intensive care unit in Beijing, China

Version: 2 Date: 23 August 2012

Reviewer: Giovanni Battista Orsi

Reviewer’s report:

Major Compulsory

Introduction
Page 4, lines 5-6: the authors first state that “five patients have healthcare-associated bloodstream infection caused by MDR-Ab” and thereafter refer to “six of seven clustered cases had received Bronchofiberscopy” please clarify the exact number of the cluster cases;

Page 4, lines 7-8: please include reference “Young LS et al. Infect control Hosp Epidemiol 2007; 28 (11): 1247-1254” explaining the difference. You might include this comment in the discussion;

Methods

Setting
Setting paragraph needs to be shortened;

Epidemiological investigation
Page 6, lines 3-5: the epidemic period and pre-epidemic periods are not clearly defined, in particular how long was the pre-epidemic period;

Page 6, lines 5-7 MDR A. baumannii definition: this is a vary important point. The authors need to refer correctly to preceeding papers (Kallen AJ, Hidron AI, Patel J, Srinivasan A. Multidrug resistance among gram-negative pathogens that caused healthcare-associated infections reported to the National Healthcare Safety Network, 2006-2008. Infect Control Hosp Epidemiol 2010; 31 (5): 528-531) as resistance to #3 of the following: penicillins, cephalosporins, aminoglycosides, fluoroquinolones, carbapenems and sulbactam;

Case-Control Study
This is a critical point of the study. The definition of infection or colonization as adopted by the authors is not correct. First of all urine is not a sterile site. Secondary not all catheters can be considered sterile sites.
Authors are requested to evaluate the infection status by screening the patients records according to the Centers for Disease Control (CDC) case definitions (Garner JS, Jarvis WR, Emori TG, Horan TC, Hughes JM. CDC definitions for
Patients with A. baumannii positive cultures, but no infection, would be 
considered colonized. It must be considered that among ICU patients it may be 
very difficult to discriminate between infected and colonized. Therefore patients 
infected or colonized by A. baumannii could be defined as carriers, whereas all 
the other as non-carriers. This definition would be methodologically correct and 
would allow case-control analysis between carriers (infected and colonized) and 
non-carriers. See also paper by “Orsi G, Franchi C, Giordano A, Rocco M, 
Ferraro F, Mancini C, Venditti M. Multidrug-resistance Acinetobacter baumannii 

Results
Page 10, lines 1-3: the authors need to define exactly the pre-pidemic period. In 
Figure 1 they show only year 2009 (pre-epidemic period january-september 2009 
– seven months and three “cases”), whereas in the text they refer to two 
preceeding years with eight “cases”. The reported data needs to be more 
consistent. Although already clear, the authors should add that the increase was 
statistically significant (p<0.05);

Page 10, lines 3-7: the authors refer to 12 patients infected or colonized (Table I), 
but in Figure 1 only 11 patients are reported (months august to november 2009), 
please correct;

Page 10, lines 3-7: data on gender, age, infection/colonization status, chronology 
should be included in Table I and deleted from the text;

Page 10, line 7: Figure 2 see comments on Figures;

Page 10, lines 13-16: all data on patients underlying conditions should be 
included in Table I and deleted from the text;

Page 10, lines 16-17: authors refer to seven patients harbouring outbreak strain 
A, therefore this comment should be postponed after REP-PCR analysis 
description (page 11);

Page 10, line 23 and page 11 lines 1-2: all data on culture sites is included in 
Table I and should be deleted from the text;

Page 11 lines 2-3: Data on strains antimicrobial pattern is very important. Did all 
strains show the same pattern or were there differences?

Discussion
Page 14, lines 12-14: “85% MDR-Ab-positive isolates from the environment were 
outbreak strain” this is a very important point that needs to be underlined, 
because it includes several implications. Authors should include here the 
following reference "Orsi G, Franchi C, Giordano A, Rocco M, Ferraro F, Mancini 
C, Venditti M. Multidrug-resistance Acinetobacter baumannii outbreak in an 
Discussion: as MDR-Ab-positive strains were isolated from two patients (2nd November and 30th November) after intervention was implemented (21st October) some comment on this should be added to the discussion;

Table I
Data on gender, age, infection/colonization status, patients underlying conditions and isolation chronology should be included;

Figure 1
Authors refer to 12 patients infect or colonized (Table I), but in Figure 1 only 11 patients are reported (months August to November 2009), please correct. The figure shows only year 2009 (pre-epidemic period January-September 2009 – seven months and three “cases”), whereas in the text authors refer to two preceeding years with eight “cases”.

Figure 2
This Figure should be deleted, as information is already included in Table I;

Minor Essential Revisions

Abstract
Pag 2, line 2: “has been reported” please correct;

Methods
The authors state that the study “was approved by the Institutional Ethic Committees of the Academy of Military Medical Sciences and 309 hospital”, as the study was carried out in one hospital, why it was approved by other 308?

Epidemiological investigation
Page 6, line 1: please modify “Medical records including paper and electronic charts were reviewed.“

Page 6, lines 7-8: Samples from Healthcare personnel are not environmental;

Results
Page 10, lines 17-18: authors refer to interval between ICU admission and MDR-Ab identification (6.3±3.8 days) and after declare (data not shown). Why as data are shown?

Page 10, lines 18-21: Rewrite after considering modifications to Table I;

Page 10, lines 23: Rewrite after considering modifications to Table I;

Page 11 lines 6-12: Please consider if this period may be more adequate for the discussion;

Page 11 lines 13-15: Please modify as follows “Twenty-six out of 78 (33.3%)
environmental strains were MDR-Ab-positive and 22 of them (84.6%) were identical to the outbreak strain A. Four of these 22 strains were recovered from the biopsy forceps and the bronchofiberscope tip that was used to treat one case patient, and from the bronchofiberscope surface after reprocessing in the ICU.

Page 12 line 4: Please correct “... patients who received bronchofiberscopy were ...

Case-Control study
Page 12 lines 1-3: Cases and controls selection was described in the methods, therefore please delete the period “Seven cases ... outbreak strain”;

Page 12 lines 7-8: Please delete because redundant (Table II) “Six ... bronchofiberscopy”;

Discussion
Page 15, line 3: bronchofiberscopy, please correct;

Page 15, line 10 to page 16 last line: this part of the discussion may be a bit shortened;

Table II
P values should be written in a column after Odds Ratios;

Figure 3
No change is needed;

Figure 4
No change is needed;

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.