Reviewer's report

Title: Clinical and microbiological characteristics of bloodstream infections due to AmpC beta-lactamase producing Enterobacteriaceae: An active surveillance cohort in a large centralized Canadian region.

Version: 3  Date: 3 June 2014

Reviewer: Yasufumi Matsumura

Reviewer's report:

Major Compulsory Revisions

1. The study design. The authors stated that this study investigated characteristics of AmpC-producing Enterbacteriaceae. All of the potential chromosomally encoded AmpC-positive organism and plasmid-mediated AmpC-producers that lack chromosomal AmpC were included in the study. Chromosomally encoded AmpC-positive Enterobacteriaceae do not always produce AmpC. For example, one study reported the production of AmpC was 38% in Enterobacter, 15% in Serratia, and 1% in Citrobacter (CID 2013;57:781). Others may have inducible AmpC but some isolates may not produce AmpC. Thus, to justify study design, 1) inclusion of only (phenotypically) confirmed or presumptive AmpC producers, or 2) inclusion of all Enterobacteriaceae and analyze according to AmpC-production seems to be appropriate.

2. Severity of illness strongly affects mortality of bacteremia. Although the authors acknowledge this problem, this is a serious limitation in the mortality analysis, the main analysis of this study.

3. Line 196 and Table 2. Choice of antibiotics for treatment should be presented in detail. Not only comparison between piperacillin-tazobactam and oxyimino-cephalosporins, but also Group I and Group II or non-beta-lactam antibiotics is important to elucidate effects of adequate therapy of a specific drug.

4. Line 94. Study objective included effects of empiric and definitive treatment on mortality. However, details of definitive therapy were not shown in Results and Table 2. Most of patients were treated with non-beta-lactam definitive therapy, which is characteristic in this study and seems interesting to analyze.

5. Line 293. A conclusion of avoiding oxyimino-cephalosporin for previous treatment history seems not suitable, because this study did not analyze risk factors.

Minor Essential Revisions

Page 162. (n=54, 9). What is 9?

6. Table 1. Please include cepefime, cefotaxime, or ceftadizime susceptibility and outcomes.
Discretionary Revisions

**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.