Reviewer's report

Title: Cloxacillin versus Vancomycin for Presumed Late-Onset Sepsis in the Neonatal Intensive Care Unit and the Impact upon Outcome of Coagulase Negative Staphylococcal Bacteremia: A Retrospective Cohort Study

Version: 2 Date: 11 April 2005

Reviewer: Anne Matlow

Reviewer's report:

General

This manuscript describes a retrospective cohort study in which cloxacillin with gentamicin was compared to vancomycin with gentamicin as empiric treatment for presumed late-onset sepsis in the neonatal intensive care unit, and the impact of the drug choice on the outcome of coagulase negative staphylococcal bacteremia. The manuscript is well written and addresses an important issue, that being the overuse of vancomycin in neonates.

General Comments

1. Although the question posed by the authors is not new, the authors have used some innovative approaches including using a non-inferiority approach, and better epidemiological data including underlying patient characteristics and definitions.
2. The methods are well described but the study is limited as acknowledged by the authors by its retrospective nature. This impacts on the soundness of the data.
3. The manuscript adheres to the relevant standards for reporting and data deposition.
4. The discussion and conclusions well balanced and supported by the data, albeit recognizing limitations of the data.
5. The title and abstract are appropriate.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

i) In using time to the first negative blood culture as one of the key outcome measures, it should be explicitly stated whether there was a protocol in place to repeat blood cultures a particular interval after starting treatment. The authors recognize in the discussion that they did not have follow up cultures on all patients, but without the above it is difficult to have confidence in this outcome measure.
ii) Was there a protocol in place for duration of treatment of CONS bacteremia?
iii) It would be helpful if we knew that patients who received vancomycin had therapeutic levels. If not, this adds further question as to whether the isolates were contaminants or true pathogens. If data are not available, this should at least be included as another limitation.
iv) The authors should address the significance of the data mean time between sepsis and prior antibiotics.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
i) Staphylococcus aureus should be underlined or italicized wherever it appears.
ii) HICPAC is the Hospital Infection Control Practices Advisory Committee. The word Practices is omitted on the first page of the background, and in reference 9

Discretionary Revisions (which the author can choose to ignore)