Reviewer's report

Title: Procalcitonin is not sufficiently reliable to be the sole marker of neonatal sepsis of nosocomial origin

Version: 2 Date: 7 March 2006

Reviewer: Daynia Elizabeth E Ballot

Reviewer's report:

General
Overall I think the article is sound and well written and my comments are mainly discretionaty.

(Following the points as outlined in the guidance for reviewers)
1. The question posed by the authors is well defined but not new. However, it is a current topic that is still under evaluation, especially in neonates. Procalcitonin is considered to be an excellent marker of sepsis in some circumstances, but this has not been shown consistently in neonatal sepsis.
2. The methods are appropriate and well described and there are sufficient details provided to replicate the work but I have the following comments.
   a. The sample size is a little small.
   b. The confirmed and not confirmed sepsis needs to be defined better. Although the whole definition of neonatal sepsis is difficult, as discussed at length by the authors, the “not confirmed” group is not clearly defined. Were these symptomatic babies with abnormal laboratory tests and a negative blood culture (i.e. is the only difference between the two groups a negative blood culture)?
   c. What about false negative blood cultures in truly septic babies? A certain proportion of the “not confirmed” group is actually septic with negative cultures. This should be discussed.
   d. The issue of contaminated blood cultures is not addressed.
   e. Were all the coagulase negative staphylococci regarded as significant? Were there none regarded as contaminants? This should be discussed in more detail, although the sepsis with CoNS is well defined.
   f. On page 7, 0.5 mls of blood for culture is generally considered sufficient in VLBW infants.
3. The data appear to be sound and there is a “not confirmed” sepsis to act as a control group. It may have been better to include a “well” group, although the authors do discuss this concern in the paper adequately.
4. The manuscript appears to adhere to standards of reporting.
5. The discussion and conclusions are well presented and supported by the data.
6. The title and abstract convey the findings well.
7. The writing is acceptable.

There are a few lines where spacing is incorrect:
Page 7 after PCT assay and Statistical Analysis
Page 8 p < 0.05
Weight is expressed in incorrect units – should be grams and not kilograms (page 8 line 7).

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

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the
author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)