Reviewer’s report

Title: PCR-DGGE assessment of the bacterial diversity of breast milk in women with lactational infectious mastitis

Version: 2 Date: 23 January 2008

Reviewer: Gabriele Bierbaum

Reviewer’s report:

The authors collected milk samples from 20 women with signs of clinical mastitis and cultured the bacteria in the milk on different agar media. All major colony types were identified by classical testing or 16S rRNA PCR. Furthermore, DNA samples were extracted from the milk and a PCR using 16S rRNA Primers was performed. The PCR bands were separated by denaturing gel electrophoresis and compared to standard bands obtained from control cultures or identified by sequencing. S. epidermidis was isolated from the majority of the samples (17 out of 20), followed by S. aureus (5 samples). Streptococci, micrococci and enterobacteria were also present. The PCR products obtained from the DNA extractions also indicated the presence of lactic acid bacteria. Candida species were not found. In the discussion and abstract, the authors hypothesize that S. epidermidis might be a frequent cause of mastitis and that in these cases it has overgrown the lactic acid bacteria that are present in the milk of healthy women, thus a shift in the microbiota causes this disease.

This is an interesting and well-written paper that deserves publication in BMC Microbiology, especially since such studies are missing for human milk.

Major compulsory revisions

1) S. epidermidis is a commensal microorganism which is isolated very frequently from the human body. In another study 39 of 40 breast milk samples obtained from healthy women contained S. epidermidis and this species presented 50 % of all isolates (citation 7). Therefore it would be very interesting to include the values of a healthy control group and to compare the colony counts of healthy mothers to that of the diseased group. Alternatively, the conclusions should be toned down a little bit.

Minor essential revisions

1) Page 3, line 23: The designation â##entero-mammary pathwayâ## normally refers to the fact that secretory antibodies against bacteria that live in the gut of the mother are present in the breast milk. It is hard to imagine how bacteria could use this pathway.

2) Check the spelling of all bacterial names on page 18, line 4 and in Table 2: Pseudomonas fluorescens, in Table 2: Pantoea agglomerans, page 18: Lactobacillus johnsonii; Lactococcus garvieae
**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**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.