Reviewer’s report

Title: Decreased cervical epithelial sensitivity to nonoxynol-9 (N-9) after four daily applications in a murine model of topical vaginal microbicide safety

Version: 1 Date: 29 May 2012

Reviewer number: 1

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The paper by Lozenski et al. is well written, clear and convincing. The authors clearly demonstrate the effect of toxicity of N-9 that is decreased after several exposure by analyzing the epithelial structures integrity, cytokines secretion and immune cells recruitment.

However, the detection of other immune cells (dendritic cells for example) inside the epithelial structures would be interesting since these cells represent an important actor for HIV transmission. In the same way, the quantification of chimokines in cervico vaginal secretion such as CCl20 or beta-defensins would be suitable for the study of candidate microbicides.

Despite this remark, this paper demonstrates that the murine model could be a very relevant model for the study of anti-HIV microbicides in particular for the analysis of long term/chronic microbicide exposure.

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.