Reviewer's report

Title: Human Papillomavirus Testing by Novel FTA Card vs. Liquid-state Medium: Accuracy Comparison of Three Assays in a Population-based Cervical Cancer Screening Study

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Reviewer: Adriaan Dr van den Brule

Reviewer's report:

This paper is in itself valuable to the field of HPV diagnostics. Although the use of FTA card is described in several other papers, this paper describes the use of this card in combination with careHPV, in comparison to HC2 and Cobas 4800, which makes it valuable for low resource settings.

Major Compulsory Revisions:

- Authors use first DCM followed by second scrape for FTA use. Although they mention this as a limitation of this study, they might discuss this in more detail what the potential consequence might be. In my opinion the FTA results are potentially negatively influenced and the FTA results might even be better?
- FTA procedure is described in detail: please also briefly describe the DCM procedure as well as HC, care HPV and Roche assay. In addition, The authors use 10x diluted DCM sample for Roche assay, and it is unclear to me why this was done. This might be a consequence of the lack of describing the procedures (in brief).
- Why were different punches used in FTA for careHPV and the other methods? Please describe the possible consequences of this for the comparative results.
- Why was no cytology performed? Is this no routine in China? Please discuss this as well.
- Discussion should be more focused and better organized based on the aims of the study.
- Although it is of importance to study the clinical relevant performances if each test combination, no HPV prevalences are provided. So please include the HPV prevalences for each method and collection medium. Also discuss this difference in HPV detection in relation to clinical sensitivities observed. The calculations of PPV and NPV are unclear to me as shown in table 2. Could there be a bias in results due to the fact that besides HPV positive women only a random group of HPV negative women are followed up for colposcopy and biopsy based histology?
- It seems to me that the FTA procedure is quite laborious; the advantage in transport seems to be largely compensated by the laborious lab procedure? Please address this in the discussion.
Please explain the higher specificity of the FTA? Is this due to removal of blood during processing the sample?

Minor comments;
- describe company names and places in standard format throughout.
- check English grammar and spelling throughout
- Discussion: reduce and rewrite the passage where Dutch FTA results are compared to Chinese data
- Line 236-237: unclear, please rewrite
- .....hypothetical sample utilized....: what do authors mean with this? Please clarify in the text.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
'I declare that I have no competing interests'