Reviewer's report

Title: High-risk human papillomavirus (HPV) screening and detection in healthy patient saliva samples: a pilot study.

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Reviewer: Aimee R Kreimer

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Comments:

1) The authors use the term ‘oral cancer’ which encompasses oral and oropharynx tumors. The association w/ HPV is seen mainly for oropharynx tumors. The authors may want to state this.

2) The following statement is problematic:

Intro: The comparatively low presence of high-risk HPV in normal tissues and much higher prevalence in oral cancers may suggest that HPV preferentially infects already developing oral cancers [12- 14]. HPV may then subsequently function to modulate the malignancy process in developing or establish oral cancers, as has been observed in studies of HPV infection in other developing cancers [29-39].

The low oral HPV prevalence in healthy individuals could be attributed to many things, including improper specimen collection and insensitive assays, and highlights the potential important of persistence (Prevalence = incidence * duration). The authors jump to the conclusion that low prevalence in healthy oral tissue and high prevalence in oral cancer suggests that HPV preferentially infects already developing oral cancers, which may be inaccurate.

3) In the intro, the authors' state “….oral lavage-based testing methods to successfully screen for oral HPV…” How do they know these methods are successful? Against what gold-standard have they been measured?

4) Results- pg 242- the authors provide data on the analytic sensitivity/specificity of the assays. This should not be confused with clinical sensitivity/specificity where a gold-standard is use to determine the performance of the assay. Analytic sensitivity is typically included in the methods section.

5) The authors refer to blood-based biomonitoring in Nevada (pg 12, line 249) but this is out of context and I don’t know what it is referring to. HPV antibodies?

6) With detection of 4 oral HPV infections, it is inappropriate to discussion the patient characteristics of those infected. The sample size for these inherent comparisons is simply inadequate.
Level of interest: An article of limited interest

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'