High-risk Human Papillomaviruses (hr-HPV) are definitely demonstrated to be the necessary cause of cervical cancer, and efforts are made to optimize the performance of diagnostic tools aimed to the detection of HPV-induced lesions. In this view, tests sensitivity and specificity may represent objective biases for the diagnostic strategy; in particular, HPV DNA tests significantly lack of specificity and detect a large amount of regressive infections, with the consequence of a low positive predictive value in terms of significative preneoplastic conditions identification. The article from the VALGENT study group (1) strongly highlighted the prospective prognostic importance of quantitative hr-HPV viral load obtained from two polymerase chain reaction (PCR) assays, tested for validation purposes, in
a screening setting: compared with HPV DNA positivity alone, viral loads reached specificities of 95.7% and 96.2% respectively. These data represent a further step forward the biomolecular era of cervical cancer prevention that will probably replace the Papanicolaou test era worldwide in the near future (2). At present, the most widely adopted and validated qualitative hr-HPV DNA test, both in U.S.A. and in Europe, is the Hibrid Capture 2 (HC2); this assay is easily commercially available, standardized, costly affordable even in low-resources settings, and represent the gold standard to be compared with for new assays to be validated. Being viral load a promising candidate tool to discriminate significant from insignificant HPV positivity, it is noteworthy to underline that HC2 itself can act as a valuable hr-HPV viral load identifier in clinical practice. In fact, the HC2 qualitative positivity relies upon a chemiluminescent reaction of viral DNA that correlates with a specific number of hr-HPV DNA copies: thus, the assay reacts in a semiquantitative manner. The hypothesis of obtaining quantitative data of viral load from a qualitative test, and so far with no adjunctive costs or laboratory expertise, has been tested with encouraging results; we recently tested HC2 in this view and demonstrated a significative correlation between the semiquantitative results indicating the test positivity (RLU – Relative Light Units) and the presence and grade of preneoplastic lesions of the cervix in cases with atypical cytology (3,4). In details, 80% and 50% of CIN2+ (CIN2-CIN3) were detected in cases with RLU values ≥ 100 and > 1000 respectively (p < 0.05). Consistently with our experience and with data from new technologies being tested for the analysis of hr-HPV viral load, we firmly believe that biomarkers will soon dramatically improve cervical cancer prevention.
References


High viral load identifies cervical lesions - Letter

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Cancer Epidemiol Biomarkers Prev  Published OnlineFirst August 21, 2013.

Updated version
Access the most recent version of this article at:
doi:10.1158/1055-9965.EPI-13-0750

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