Mini-commentary on 2016-OG-18635R1: HPV testing in first-void urine provides sensitivity for CIN2+ detection comparable to a physician-taken smear or brush-based self-sample: cross-sectional data from a triage population.

Urinary HPV testing may offer hope for cervical screening non-attenders

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Despite the success of cervical screening, cancer of the cervix is the fourth most common cancer affecting women worldwide (CRUK 2014). Rates are particularly high in developing nations, which lack the requisite infrastructure for cytology and colposcopy-based screening, and in certain demographic groups, where uptake of screening is poor. Recent research has focussed on developing less invasive and potentially more acceptable means of identifying women at high risk of cervical intraepithelial neoplasia (CIN). Urinary HPV testing has received particular attention because of the ease of obtaining samples and the opportunity this affords to overcoming barriers to cervical screening like embarrassment and discomfort.

The cross-sectional study performed by Leeman et al. and published in this issue of BJOG adds to the body of evidence supporting the equivalent sensitivity of urinary HPV testing to both self-collected and physician-obtained cervical samples, when performed using two sensitive PCR-based tests. Whilst this in itself simply confirms the results of an earlier meta-analysis by Pathak et al. (BMJ, 2014, 349, 5264), the true value of this study lies in its ability to correlate the presence of urinary HPV with histologically confirmed CIN, as all patients underwent a cervical biopsy. These data have been missing from most historical studies, preventing the assessment of the true value of urinary HPV testing for the detection of premalignant cervical disease. Leeman et al. found that almost every patient with CIN2 or worse had high risk-HPV in their urine, confirming the test’s sensitivity. The caveat to this, however, is that as a standalone test it was relatively non-specific and could potentially lead to over-diagnosis and treatment, if not combined with further investigation of those
testing positive. Piyathilake et al. (Cancer, 2016, 122, 2836-2844) clearly demonstrated this in their larger study of 502 women, where only 1 in 5 women testing positive for high risk-HPV in their urine or cervix had CIN2 or worse. Where HPV testing is of particular value is rather the reassurance it gives women with a negative test; the same group found that the absence of high risk-HPV infection was truly associated with no disease in over 9 out of 10 cases.

Before urinary HPV testing can be rolled out into routine screening, however, further data is urgently required concerning the accuracy and acceptability of urinary HPV testing in the general population, instead of the selected colposcopy referral population that has been the focus of studies so far. The prevalence of cervical HPV infection is lower in the general population, and this will influence the sensitivity and negative predictive value of the test. Recruiting ‘hard to reach’ groups is a priority of future research as it is precisely these women who are most likely to benefit from its use in clinical practice. If urinary HPV testing overcomes barriers to cervical screening that prohibit its uptake by these women, it may become an important weapon in the fight against cervical cancer.

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