
Reprints or correspondence: Dr. David T. Dennis, 1012 Breakwater Dr., Fort Collins, CO 80525 (epicurve(at)gmail.com).

Clinical Infectious Diseases 2006; 42:307–8 © 2005 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2006/4202-0030$15.00

Self-Screening for Rectal Sexually Transmitted Infections: Human Papillomavirus

Sir—Reports from North America and Europe confirm a resurgence of bacterial sexually transmitted infections (STIs) among men who have sex with men (MSM). The majority of rectal infections are asymptomatic; therefore, control of these infections necessitates screening. Despite published guidelines for routine screening of MSM for STIs, studies and anecdotal reports alike indicate exceedingly low coverage [1]. In an era in which rectal bacterial STIs are understood to enhance transmission of HIV-1, novel approaches to increase the coverage of rectal screening for STIs among MSM are urgently needed. Very recent improvements in the performance of nucleic acid amplification tests permit consideration of self-collection as a promising approach to increasing rectal STI screening among MSM. However, data pertaining to the suitability of self-collected rectal specimens for accurate detection of STI are as yet exceedingly rare.

As part of a larger head-to-head comparison of self-screening versus clinician-performed screening for anal cancer precursor lesions in 222 young MSM [2], we selected for initial human papillomavirus (HPV) typing 24 patients with a diagnosis of atypical squamous cells of undetermined significance and 48 control subjects with normal cytological findings. Here we report the pair-wise concordance of self-collected and clinician-collected specimens for detection of specific HPV types.

Paired self-collected and clinician-collected swab specimens (Dacron swabs; Hardy Diagnostics) were obtained in a randomly assigned order from MSM who were predominantly HIV-1 seronegative, white, and well educated; the median age of these subjects was 31 years [2]. The

Table 1. Human papillomavirus (HPV) type-specific prevalence and concordance in paired self-collected and clinician-collected anorectal swab specimens obtained from 63 young men who have sex with men.

<table>
<thead>
<tr>
<th>HPV type</th>
<th>Either swab</th>
<th>Clinician-collected swab</th>
<th>Self-collected swab</th>
<th>Agreement</th>
<th>Agreement, % (95% CI)</th>
<th>Agreement, % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>30</td>
<td>30</td>
<td>22</td>
<td>92</td>
<td>(82–97)</td>
<td>0.80 (0.56–1.00)</td>
</tr>
<tr>
<td>18</td>
<td>13</td>
<td>11</td>
<td>8</td>
<td>94</td>
<td>(84–98)</td>
<td>0.63 (0.39–0.88)</td>
</tr>
<tr>
<td>45</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>94</td>
<td>(84–98)</td>
<td>0.68 (0.44–0.92)</td>
</tr>
<tr>
<td>51</td>
<td>14</td>
<td>13</td>
<td>11</td>
<td>95</td>
<td>(87–99)</td>
<td>0.77 (0.52–1.00)</td>
</tr>
<tr>
<td>Any high-risk typea</td>
<td>68</td>
<td>62</td>
<td>67</td>
<td>92</td>
<td>(82–97)</td>
<td>0.83 (0.58–1.00)</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>11</td>
<td>13</td>
<td>92</td>
<td>(82–97)</td>
<td>0.62 (0.38–0.87)</td>
</tr>
<tr>
<td>42</td>
<td>11</td>
<td>10</td>
<td>8</td>
<td>95</td>
<td>(87–99)</td>
<td>0.70 (0.46–0.95)</td>
</tr>
<tr>
<td>q62</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td>94</td>
<td>(84–98)</td>
<td>0.68 (0.43–0.93)</td>
</tr>
</tbody>
</table>

* High-risk HPV types include 16, 18, 26, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 69, 70, 73, 82, and 1339.
study was approved by the University of British Columbia Human Research Ethics Board and written informed consent was obtained from each participant. Frozen 1-mL aliquots of liquid-based pap smear solution (PreservCyt; Cytyc) were used for line blot HPV typing [3]. We calculated percent agreement and $\kappa$ statistics to measure the pair-wise concordance of type-specific HPV in self-collected and clinician-collected specimens.

High-risk HPV was detected in at least 1 specimen obtained from 42 (66.7%) of the 63 subjects whose self-collected and clinician-collected swab samples could both be amplified; the concordance for such detection in self-collected and clinician-collected specimens was excellent ($\kappa = 0.83$) (table 1). Results were similarly excellent for detection of every HPV type whose prevalence was $>10\%$.

In summary, we observed excellent concordance of HPV type-specific results in paired self-collected and clinician-collected anorectal swab specimens obtained in a pilot study of young MSM. Such high levels of agreement strongly suggest that self-collected rectal specimens may be suitable for use in HPV-related natural history, treatment, and vaccine trials. Furthermore, we found self-collection of such specimens to be highly acceptable to young MSM [4]. Although our results are the first pertaining to detection of ano-rectal HPV infection in MSM, they are consistent with initial studies of self-screening for type-specific HPV infection in women [5]. We hope our promising results will prompt researchers to engage in further evaluation of self-screening for rectal HPV infection and for bacterial STIs. Demonstration of effective self-screening for the latter has profound implications for the incorporation of biological endpoints into STI prevention trials and the possible control of resurgent bacterial STI among MSM.

Acknowledgments

T.M.L. conceived and designed the study, supervised the data analysis by K.C., and wrote the report with A.A. R.S.H. assisted with laboratory testing. All authors critically reviewed drafts and approved the final version of the manuscript.

Financial support. Michael Smith Foundation for Health Research, Canadian Institutes of Health Research, and Cytyc (which provided cytologic supplies only).

Potential conflicts of interest. J.K. is an employee of Roche Molecular Systems. All other authors: no conflicts.

Thomas M. Lampinen, Keith Chan, Aranka Anema, Janet Kornegay, Robert S. Hogg, and Francois Coutlée

1British Columbia Centre for Excellence in HIV/AIDS and 2Department of Health Care and Epidemiology, University of British Columbia, Vancouver, and 3Département de Microbiologie- Infectiologie, Centre Hospitalier de l’Université de Montréal, Montreal, Canada; and 4Roche Molecular Systems, Alameda, California

References


Reprints or correspondence: Dr. Thomas M. Lampinen, BC Centre for Excellence in HIV/AIDS, 608-1081 Burrard St., Vancouver, BC V6Z 1Y6 Canada (tlampinen@cfenet.ubc.ca).

Clinical Infectious Diseases 2006;42:308–9 © 2005 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2006/4202-0031$15.00