DIAGNOSTICS

Human papillomavirus in men: comparison of different genital sites

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Objective: To elucidate which anatomical sites need to be sampled to detect human papillomavirus (HPV) infection in the lower male genital tract.

Method: In an HPV survey of Mexican soldiers (median age 24 years; range 16–50 years), a cell sample from 2 cm deep into the distal urethra (group 1; n = 168 men), or 0.5 cm deep into the meatus urethralis (group 2; n = 414 men) was collected, along with a sample from the external genitalia. The different samples were tested for 27 HPV types using a polymerase chain reaction based strip assay.

Results: HPV DNA was detected more frequently in external genitalia samples (46.4%) than in the urethra (20.8%) or meatus samples (12.1%). Lack of samples from the urethra or meatus would have led to 5.1% and 1.5% false HPV negative results, respectively. The most frequently detected high risk HPV types (HPV 59, 52, 51, and 16) were similar in different sites, whereas low risk types were found rarely in urethra samples.

Conclusions: The addition of cell samples from the meatus to those from external genitalia contributed negligibly to the evaluation of the prevalence of HPV in men. HPV detection was slightly improved by the addition of urethra samples, but the gain may not justify the discomfort of the procedure in large epidemiological studies.

Mexico, and the International Agency for Research on Cancer.

Participants were instructed not to wash their genitalia 12 hours before the urological examination. Samples were collected using a cytobrush (Cytobrush Plus Sterile, Medscand Medical Inc, Hollywood, FL, USA), moistened in phosphate buffered saline (PBS), to brush the penis in a continuously rotational movement, from bottom to top, starting at the middle third of the scrotum. After retraction of the prepuce (for uncircumcised men), the coronal sulcus, the glans, and the tip of the penis were also brushed. The cytobrush was then cut, and placed in a tube containing 20 ml of PBS.

Among two consecutive groups of men in the first part of the study, a second cell sample was collected and placed in PBS.

Group 1: among the first 298 men recruited in the study, the second sample was taken from the distal urethra using a pre-wetted Accellon Multi-Biosampler Swab (Medscand Medical Inc, Hollywood, FL, USA), which was introduced 2 cm deep and rotated 360 degrees.

Group 2: among a subsequent group of 522 men, the second sample was obtained from the meatus urethralis by opening the tip of the penis and introducing a cotton swab 0.5 cm deep into the urethra.

All samples were stored at −20℃ until shipment to the Department of HPV Typing of the National Institute of Public Health of Mexico, Cuernavaca, where the tubes were