

Abstract

Human papillomavirus (HPV)-associated penile lesions in men may increase the risk of HPV transmission to their female partners. Risk factor data on HPV-associated penile lesions are needed from regions with a high burden of cervical cancer. Visual inspection of the penis was conducted using a colposcope at the 24-month visit among participants in a randomized controlled trial of male circumcision in Kenya, from May 2006 to October 2007. All photos were read independently by two observers for quality control. Penile exfoliated cells sampled from the glans/coronal sulcus and the shaft were tested for HPV DNA using GP5+/6+ PCR and for HPV16, 18 and 31 viral loads using a real time PCR assay. Of 275 men, 151 were circumcised and 124 uncircumcised. The median age was 22 years. Circumcised men had a lower prevalence of flat penile lesions (0.7%) versus uncircumcised (26.0%); adjusted odds ratio (OR) = 0.02; 95% confidence interval (CI) = 0.003-0.1. Compared to men who were HPV negative, men who were HPV DNA positive (OR = 6.5; 95% CI = 2.4-17.5) or who had high HPV16/18/31 viral load (OR = 5.2; 95% CI = 1.1-24.4) had higher odds of flat penile lesions. Among men with flat penile lesions, HPV56 (29.0%) and 16 (25.8%) were the most common types within single or multiple infections. Flat penile lesions are much more frequent in uncircumcised men and associated with higher prevalence of HPV and higher viral loads. This study suggests that circumcision reduces the prevalence of HPV-associated flat lesions and may ultimately reduce male-to-female HPV transmission.