RESEARCH NOTE

ESTABLISHMENT OF A MOLECULAR DIAGNOSTIC SYSTEM FOR DETECTING HUMAN PAPILLOMAVIRUS IN CLINICAL SAMPLES IN SRI LANKA

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Abstract. Human papillomavirus (HPV) is associated with variety of clinical conditions that range from innocuous lesions to cancer in both men and women. Consensus primer-mediated PCR assays have enabled screening for a broad spectrum of HPV types. We have established a molecular diagnostic system for detecting HPV DNA in clinical samples from STD clinics in Sri Lanka and compared the efficacy of three different primer sets, MY09/11, GP5+/6+ and CPI/IIG primer sets, to determine which primer set or combination of primers is most efficacious in screening for HPV. Cervical and urethral swabs were obtained from 51 patients who were suspected of having HPV. The presence of HPV DNA in swabs was detected by MY09/11 PCR (33%), GP5+/6+ PCR (72%) and CPI/IIG PCR (57%) primers. HPV DNA was detected in 23% of samples by all three methods, in 43% by any two methods, and in 6% only by GP5+/6+ primer set. GP5+/6+ PCR alone was capable of detecting the most number of HPV positives but, any single PCR method for the detection of HPV may underestimate the true prevalence of HPV in clinical samples. Nested PCR assay with MY09/11 and GP5+/6+ primer sets had higher sensitivity than singleplex PCR but, due to the risk of cross contamination in employing nested PCR, it was concluded that GP5+/6+ PCR is more suitable for HPV DNA detection in epidemiologic and clinical follow-up studies in Sri Lanka.

Keywords: human papillomavirus, molecular diagnosis, nested PCR, Sri Lanka

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