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APISIT POONNANITI: DETECTION OF HUMAN PAPILLOMAVIRUS TYPES IN INVASIVE CERVICAL CARCINOMA BY MEANS OF POLYMERASE CHAIN REACTION (PCR) AND HYBRIDIZATION. THESIS ADVISOR : PARVAPHAN BHATTARAKOSOL, Ph.D., THESIS CO-ADVISOR : ASSO.PROF. SOMCHAI NIRUTHISARD, MD.,
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Human papillomavirus (HPV) is the causative agent of condyloma acuminata, the common sexually transmitted disease which distributed worldwide. Beside condyloma, cervical intraepithelial neoplasia (CIN) and cervical carcinoma are also suspected to be associated with HPV infection espectially those HPVs in high risk group such as HPV-16 and -18. Consequently, it was hypothesized that HPV may play some role(s) in malignant transformation.

In this thesis, a detection of HPV DNA in formalin-fixed, paraffin embedded tissue with histopathologic evidence of invasive cervical carcinoma was studied. DNA extracted from 100 specimens were amplified by polymerase chain reaction (PCR) using L1 consensus primers specific for HPV. The amplified product was analysed by gel electrophoresis (GE) and dot hybridization (DH) using generic (GP) and type-specific oligonucleotide probes (TS); 5 TSs were used in this experiment, i.e., TS-6, TS-11, TS-16, TS-18 and TS-33. All of these probes were non-isotopic labelled. The DH of PCR amplified product increased the sensitivity of HPV detection by at least 10 folds. It was found that 82% of specimens contained HPV-DNA.

The most common type was HPV-16 (35/82, 42.7%) followed by HPV-18 (17/82, 20.7%) and HPV-33 (3/82, 3.6%). Five specimens (6.1%) contains both HPV-16 and -18. HPV-6 and -11 could not be detected in any specimens. Therefore, these data seem to extend the reports by others concerning the contribution of HPV especially type-16 and -18 in carcinogenesis of the cervix uteri.