

Thesis Title Studies on Human Papillomavirus, Herpes Simplex
Virus Type 2 and p53 Status in Cervical Cancer

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ABSTRACT

Several lines of evidence have suggested that certain types of human papillomavirus (HPV) and herpes simplex virus type 2 (HSV-2) are associated with cervical carcinoma. To study for such association in Thai women, determination for the presence of HPV genome and HSV-2 *Bgl* II N fragment was performed in cervical tissues derived from patients with premalignant and malignant lesions. By non-isotopic *in situ* hybridization, 50% of samples were positive for HPV, type 16/18 were more commonly observed than others. While 15% of histologically-proved normal cervical tissues randomly taken from the patients were positive, all cervical tissues derived from non-cervical cancer subjects were negative for HPV. The presence of HSV-2 *Bgl* II N sequence detected by nested PCR in HPV-positive and negative groups was similar, i.e., approximately 20 % and 18%, respectively. The results suggested that other co-factor(s) may also interact with HPV and /or HSV-2 that eventually lead to malignancy conversion.

Another factor which may play an important role in cervical carcinogenesis is the tumor suppressor gene-p53. *In vitro* studies have shown that E6 product from oncogenic type of HPV could bind to p53 product and finally led to p53 degradation through the ubiquitin protease system. Thus, in this study the status of p53 was also examined in cervical cancer tissue samples with HPV positive and HPV negative by immunohistochemistry technique. Only one of 52 samples was positive for p53; this p53 positive case had histological diagnosis of CIN III and was positive with all HPV probe groups as well. Further molecular analysis is needed to indicate whether p53 mutation plays role in cervical carcinoma in these patients.