P–06; **HPV-16 DNA VIRAL LOAD IS A STRONG MARKER TO PREDICT THE DEVELOPMENT OF CERVICAL CANCER IN KOREAN WOMEN**

Jee Eun Rhee[1], Dai Ho Jang[1], Byeong-Sun Choi[1], Sam Hyun Cho[2], Sung Soon Kim[1]

[1]*Division of AIDS, Center for Immunology and Pathology, National Institute of Health, Seoul, Korea*

[2]*Department of Obstetrics and Gynecology, College of Medicine, Hanyang University, Seoul, Korea*

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Background: In human papillomavirus (HPV)-associated carcinogenesis, HPV-16 DNA viral loads may play an important role in the progression of cervical cancer.

Objectives: This study investigated HPV-16 DNA viral load as well as epidemiological factors which could be a surrogate marker for developing cervical intraepithelial neoplasia (CIN) and cervical cancer in Korean women.

Materials and Methods: Sixty-five HPV-infected women from Hanyang University were enrolled in this study. There were 21 cases with abnormal cytology (no CIN), 5 cases with low-grade CIN (CIN1), 3 cases with high-grade CIN (CIN2/3), and 36 cases with cervical cancer. HPV-16 DNA viral load was measured with commercial HPV-16 real-time PCR kit (Primer Design Ltd).

Results: HPV-16 DNA viral load (Log_{10} HPV-16 DNA copies/μg DNA) significantly increased with the grade of cervical lesions as follows: 5.6 in no CIN, 6.1 in CIN1, 6.6 in CIN2/3, and 7.1 in cancer. HPV-16 DNA viral load increased with the grade of cervical cancer (6.3 in grade 1, 7.5 in grade 2, and 8.5 in grade 3). Although the HPV-16 DNA viral load did not show the significant differences for different grades of CIN, it showed the strong relationship with cervical cancer ($p < 0.001$). Integrated HPV-16 DNA viral load showed the significant differences between cervical cancer and no CIN ($p = 0.03$). The cervical disease progression increased with age ($p = 0.05$) but no significant association was observed with any other risk factors such as pregnancy, age of the first sexual intercourse, and number of lifetime sexual partners.

Conclusions: Our data show that HPV-16 DNA viral load might be a useful predictor for the development of CIN and cervical cancer in Korean women.