Human Papillomavirus (HPV) and Epstein-Barr Virus (EBV) Cervical Infections in Women with Normal and Abnormal Cytology

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Abstract

In 48 adult women, subdivided into group 1 with no cervical intraepithelial neoplasia (CIN-negative) and group 2 (CIN-positive), endocervical scrapes were tested for the presence EBV DNA and HPV DNA using PCR-ELISA. In addition, attempts were made to detect HPV 16 and HPV 18 using other PCR amplification techniques. In parallel, in biopsies of uterine cervix obtained from group 2 patients, presence of EBER was documented by RNA in situ hybridization (ISH). Sera of all patients were tested for anti-EBV antibodies. In group 1, presence of EBV DNA was noted in the material obtained from 8 women (30.8%), while HPV DNA was detected in 2 women (7.7%). In group 2, EBV DNA was present in the material obtained from 11 patients (50%), including 7 (31.8%) with HPV DNA also identified. In 5 women (22.7%) of group 2 only HPV DNA was detected. The identical HPV DNA in all cases belonged to HPV 16 type. Both in group 1 and in group 2, all patients were found to carry serum IgG-anti-VCA and IgG-anti-EBNA antibodies. The results allow to conclude that, co-infection with EBV and HPV 16 may be of cervical significance in etiopathogenesis of uterine cervical cancer.

Key words: human papillomavirus, Epstein-Barr virus, cervical neoplasia, carcinogenesis

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