Human Papilloma Virus Early Proteins E6 (HPV16/18-E6) and the Cell Cycle Marker P16 (INK4a) are Useful Prognostic Markers in Uterine Cervical Carcinomas in Qassim Region- Saudi Arabia.

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Abstract:

Abstract Cervical cancer is a common and an important public health problem for adult women in developing countries. In contrast, cervical cancer incidence is low in Saudi Arabia. High-risk types of human papilloma viruses (HPV16 and HPV18) are the most significant risk factors for cervical cancer. HPV16/18-E6 oncoprotein is associated with HPV etiology, viral persistence and epithelial transformation. Cell cycle protein p16 INK4a (p16) plays an important role in the pathophysiology of cervical carcinomas. The aims of this study were to investigate the expression of HPV16/18-E6 and p16 in uterine cervical carcinomas in Qassim Region - Saudi Arabia, and to relate the results to the established clinicopathological prognostic parameters (age of the patient, educational level, birth control methods, number of pregnancy, smoking status, degree of histological differentiation, clinical stage, and lymph node metastasis) The study included 40 specimens of uterine cervical squamous cell carcinomas diagnosed and confirmed by biopsy. Histopathological classification of cervical tumors cases was performed according to the International Federation of Gynecology and Obstetrics (FIGO). Immunohistochemical analysis for HPV16/18-E6 and p16 were carried out on formalin-fixed paraffin-embedded sections of cervical tissues using avidin-biotin peroxidase method. There was a significant statistical correlation between HPV16/18-E6 expression in cervical carcinoma and nationality, smoking status and size of the tumor. HPV16/18-E6 oncoprotein expression in normal lymphocytes and endothelial cells in the tumor tissues and the adjacent normal cervical tissues suggest the possibility that HPV infection might spread to other organs through blood circulation. P16 expression has been correlated with high grade, stage of cervical SCC and HPV16/18-E6 expression. The current study supports the critical function of p16 and HPV16/18-E6 as specific markers for cervical carcinoma. However the potential for usage of p16 and HPV16/18-E6 as prognostic markers will require detailed follow data for a larger group of patients.

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