

P103. HIGH INTEGRATION OF HUMAN PAPILLOMAVIRUS DNA IMPLICATES POOR CLINICAL OUTCOME IN PATIENTS WITH UTERINE CERVICAL CANCER OF THIRD STAGE

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Context. Cervical cancer (CC), the etiologic factor of which is human papillomavirus (HPV) occupies one of the leading positions among malignant neoplasms and has a strong tendency to increase in young women. The high mortality rate of patients with advanced forms of cervical cancer forces physicians to search for molecular genetic markers for the prognosis of the therapy effectiveness and selection of individual approach to treatment.

ObjectiveThe purpose of this study is to evaluate how the presence or absence of HPV and the degree of viral DNA integration into the host genome are associated with clinical outcome of uterine CC of the third stage.

Methods.The presence of HPV DNA in cervical smear collected before therapy was analyzed by real-time polymerase chain reaction. The degree of HPV16 DNA integration was assessed by the ratio of the amount of E7/E2 virus genomic equivalents in view of standard deviation and coefficient of variation data.

Patients and Interventions. The group under investigation included 54 patients with primary CC of the third stage treated by radiotherapy or concurrent chemoradiotherapy: 44 HPV16 positive and 10 HPV-negative ones [one of the reasons for not-revealing HPV can be a too low of viral copy number (below the detection threshold) when the degree of virus integration is high].

Results.ROC-analysis was used to select the optimal discriminator (50%) that separates tumors with high and low degree of virus integration. Patients were divided into 2 groups: the first consisted of 23 patients with conventionally "highly integrated" HPV16 DNA (> 50%) and HPV-negative, the second - with episomal and "low integrated" (<50%) viral DNA (31 patients). These groups had no significal difference in the age range of the patients and in the clinical and morphological characteristics of the tumor.

Main Outcome Measures. According to Kaplan-Meier curves and log-rank test, both disease-free and overall survival in the first group were significantly lower than in the second one.

Conclusions. Thus, according to these results it can be assumed that a high degree of HPV16 integration and/or not-revealing of the virus are an independent factor of the poor clinical outcome of advanced forms of cervical cancer.

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