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IL10 AND IL-1B GENETIC POLYMORPHISM IN CERVICAL CANCER

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Introduction: Cervical cancer is the fourth most common type of cancer for women worldwide. Human papillomavirus (HPV) is found in about 99% of cervical cancers. By the age of 50, approximately 80% of women have been infected with some type of HPV. The majority of women infected with the HPV virus do not develop cervical cancer. A small number of women do not clear the HPV virus and are considered to have a persistent infection. Disordered inflammation and immune response is an acknowledged risk factor for cervical cancer development. Recent investigations showed that interaction between HPV and IL10 can lead to immunosuppressive environment in cervix, while T alel of IL-1B gene is correlated with chronic inflammation and persistent infection with HPV16/18. Objectives: In this study, we aimed to evaluate the relationships between IL-10 (rs16944) and IL-2B (rs1800896) genetic polymorphisms and cervical cancer risk in a cohort of women from Croatia. Participants and methods: A case-control study of 81 women with invasive cervical carcinoma and 80 age matched healthy controls (women with at least 3 normal recent cytological examinations) was performed. We collected peripheral blood samples, extracted DNA and analysed two SNPs (rs16944 and rs1800896) using Taqman assays and real time PCR. We investigated a possible association between two cytokines genetic polymorphism and occurrence of cervical carcinoma. Results: There was no significant difference between the frequency of IL-10 and IL-1B genotypes between the patients and the controls ($\chi 2$ test, $P<0,05$). There were no statistically significant associations of IL-10 and IL-1B polymorphism and age of onset of cervical cancer (Mann-Whitney U test, $P<0,05$) Conclusion: In this study, no association was found between IL-10 and IL-1B genetic polymorphism and cervical cancer development.

Keywords: cervical cancer, cytokines, genetic polymorphism, il-10, il-1b