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Interleukin 10- 592 C/A variant association with a HPV E6/E7 mRNA expesion in group of Macedonian women

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Statement of the Problem: Interleukin 10 (IL-10) is an immunosuppressive cytokine and its genetic variant could have an indirect impact on viral biology and HPV E6/E7 mRNA expression as well. In the study, we evaluate the association between IL10 -592 C/A polymorphism and HPV E6/E7 mRNA expression in a group of women from R North Macedonia. Using PreTect HPV proofer (Norchip) and HPV 4 ACE (Seegen) tests we analyzed 272 women's cervical samples for HPV E6/E7 mRNA and HPV DNA presence respectively. The cases were stratified into three groups: double-positive (n=108, positive for both tests), negative (n=51, negative for HPV E6/E7 mRNA and HPV DNA positive), and the control group (n=113, negative for both tests). The IL10-592 C/A polymorphism was analyzed using polymerase chain reaction-restriction fragment length polymorphism.. Findings: The results showed the CC genotype and the C allele frequencies of IL10-592C/A were significantly higher in double-positive (59.3% and 78.2%) compared to negative group (39.2% and 65.7%), (p=0.01, CI=0.44;0.22-0.87- dominant model; and p=0.01, CI =0.53; 0.3-0.8 respectively).

Conclusion & Significance: The CC genotype and C allele of IL10-592 showed to be associated with HPV E6/E7 mRNA but not with HPV DNA positivity, which could mean this polymorphism could affect the course of the infection only after HPV onset and it is not associated with susceptibility to HPV.

Biography

Sotirija Duvlis has focused her research and education on understanding the immune factors that affect the persistence of HPV infection and the risk of developing cervical cancer. In particular, research has focused on immunogenetic variants of cytokines that correlate with increased or decreased interleukin expression. Her research focuses on identifying immune factors that could be an early marker to predict which women are at risk for developing cervical cancer. Detection of these markers and their implementation in everyday practice would prevent the growth of cervical cancer by detecting immunogenetic markers in the case of interleukin 10.

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