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Incidence of high-risk Human papillomavirus infection in immuno compromised hosts

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Statement of the Problem: Cervical cancer is the second most common women cancer in the world. High-risk human papillomavirus (HR-HPV) infection is the most common cause and just two HPV types, 16 and 18, are responsible for about 70% of all cervical cancer cases. Due to long-term immunosuppressive therapy, renal transplant recipients have faster progression from infection to lesions and higher risk of developing cervical cancer. The purpose of this study is to compare frequency and viral load of HR-HPV in female renal recipients with immunosuppression, and in individuals without immunosuppression.

Methodology & Theoretical Orientation: In this research, 16 patients were enrolled six months after renal transplantation and 16 individuals without immunosuppression as a control group. Genomic DNA was extracted from cervical swabs. Polymerase chain reaction (PCR) with consensus primers was used for initial detection of high range HPV types. HR-HPV qPCR was used for quantitative detection of 12 types of HR-HPV (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59). To detect HR-HPV16 and 18 types specific PCR was used.

Findings: HPV DNA was detected in 12 out of 16 recipients (75%) and five of them (31%) were positive on HR-HPV infection. In contrast, seven out of 16 (43%) controls were positive HPV DNA and only one was positive on HR-HPV infection. Three recipients showed the highest viral load of HR-HPV (3,630,780, 4,655,860 and 29,512,092 copies/105 cells, respectively). From five patients with HR-HPV infection-one was positive on HPV16 and another one on HPV18. Only one individual from control group was positive on HR-HPV with 169,824 copies/105 cells.

Conclusions: At point, the study is showing higher presence of HR-HPV infection with higher viral load in female recipients than in individuals without immunosuppression which means that they have higher risk of cervical dysplasia development.

Biography

Maksims Cistjakovs has over 10 years of working experience in Clinical Virology research. Main focus of his study is on "Immunomodulating properties of human herpesvirus-6 and high-risk papillomaviruses infection in immuno compromised hosts.

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