

HPV GENOTYPING AT THE CITY INSTITUTE FOR PUBLIC HEALTH BELGRADE FROM JANUARY 2023 TO JULY 2024

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Introduction: Human papillomavirus (HPV) infection is an indispensable factor in the carcinogenesis of the cervical epithelium. Persistent infection with high-risk HPV genotypes poses a particular risk. According to the World Health Organization (WHO) guidelines, molecular biological assays that detect the presence of HPV DNA and determine the viral genotype in cervical samples are diagnostically superior for early infection detection compared to conventional cytological Pap smears.

Objectives and Methods: To present the results of HPV genotyping from endocervical swab samples at the City Institute for Public Health Belgrade. In this study, we employed the Sansure Biotech diagnostic kit for HPV genotyping. Using Real-Time Polymerase Chain Reaction (rtPCR) methodology (utilizing specific primer pairs and specific fluorescent probes), this kit detects 15 high-risk HPV genotypes (HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68). The research included test subjects whose clinical indications warranted the reason for testing.

Results: From January 2023 to July 2024, a total of 292 HPV genotyping tests were conducted; 96 (32.9%) were positive for high-risk genotypes. The most frequently detected genotype was HPV16 (30.2%), while HPV18, HPV52, HPV53 and HPV68 were equally represented (approximately 20%). Other genotypes included in the test panel were detected sporadically. According to the International Classification of Diseases (ICD-10), the most common referral diagnosis for testing was N72 - inflammation of the cervix (63%), with high-risk genotypes confirmed in 35% of these cases.

Conclusion: HPV genotyping confirms the importance of applying molecular biological techniques in the early diagnosis of HPV infection and the prevention of cervical epithelial carcinogenesis. This method also becomes a significant tool in improving cervical cancer screening strategies in the future.

Keywords: HPV, cervical epithelial carcinogenesis, genotyping