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Human Papillomavirus Status in Jordan among a Subpopulation of Women and in Head and Neck Cancer Patients

Ashraf I. Khasawneh^{1*}, Nisreen Himsawi¹, Jumana Abu- Raideh¹, Muna Salameh¹, Fida Al-Asali², Rami Kilani², Rami Khasawneh³ and Niveen Abdullah⁴

¹Basic Medical Sciences Department, Faculty of Medicine, Hashemite University, Jordan

²Departments of Obstetrics & Gynecology, Faculty of Medicine, Hashemite University, Jordan

³Department of Pathology, King Hussein Medical Center, Jordan

⁴Pathology and Laboratory Medicine Department, King Hussein Cancer Center, Jordan

Background: Human papillomavirus (HPV) infection is spread worldwide. HPV is the most common Sexually Transmitted Infection (STI), and is closely associated with both cervical and head and neck cancers. In Jordan, the incidence and mortality rate of both malignancies are low. Our studies aimed at determining the prevalence of HPV infection among a subpopulation of healthy women, and its prevalence in a population of head and neck cancer patients in Jordan.

Methods: During the period of January 2017 to June 2018, cervical samples from women, and formalin fixed paraffin embedded (FFPE) squamous cell carcinoma (SCC) samples from the head and neck were collected to determine the presence of HPV DNA. After DNA extraction HPV infection was detected via PCR using the consensus GP5+/GP6+ and MY09/MY11 primer sets. Genotypes were determined using real-time PCR and reverse line blot assays.

Results: Among Jordanian women, 14 out of 348 women tested positive for HPV with a prevalence rate of 4%. The most common genotype was HPV 16 (42.9%; 6/14). Multiple HPV genotypes were seen in 36% (5/14) of infected women, while single HPV genotype infection was seen in 64% (9/14) of the women. High-risk HPV infection was detected in most cases with 78.6% (11/14) infection rate, potential high risk HPV infection was detected in 42.9% (6/14), and low risk HPV infection was detected in 7.1% (1/14) of the women. In head and neck cancer patients HPV DNA was detected in 13 of 65 (20%) samples. HPV 16 was the only genotypes detected. All HPV positive samples originated from tongue or base of tongue.

Conclusion: This is the first study in Jordan to report the prevalence of HPV infection among Jordanian women. The prevalence rate of HPV infection in Jordan is the lowest in the Middle East region. On the other hand, a relatively high rate of high-risk HPV infection in SCCs of the head and neck regions was observed.

Biography:

Ashraf I Khasawneh obtained his MD in 2002 from the Faculty of Medicine at Jordan University of Science and Technology. He conducted his Ph.D. research under the guidance of Pantelis Poubourios in the Department of Microbiology at Monash University (Australia) and graduated in 2012. Since 2012, he has been a faculty member in the Department of Basic medical sciences at the Hashemite University in Jordan where he is currently an assistant Professor. His research interests include the role of human papillomavirus in cancers of the cervix and head and neck, and microbial drug resistance studies.