

# The Relationship Between ASC-US Diagnosis in Cervical Cytology and HPV

Berre Kart<sup>1</sup>, Berna Şermin Kılıç<sup>2</sup>

<sup>1</sup>Bezmialem Vakıf University, Faculty of Medicine, Istanbul, Türkiye

<sup>2</sup>Istanbul Training and Research Hospital, Department of Gynecology and Obstetrics, Istanbul, Türkiye

**Introduction:** Cervical cancer is the second most common type of cancer encountered among women in the world. Human Papillomavirus (HPV) is known as its main etiological factor. Reported to have over 100 genomes, 16, 18, 31, 33, 34, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68 and 70 types of HPV are among the high-risk types and it has been revealed that they are closely associated with intraepithelial lesion and cervical cancer.

The importance of diagnosis and treatment of cervical pathologies in the precancerous period is increasing in our country. In addition to cytological screening tests, detection of HPV DNA and HPV typing are important in the early diagnosis and treatment of cervical carcinoma and precancerous lesions. In the cytological material, atypical cytological findings not meeting the low-grade squamous intraepithelial lesion (LSIL) and high-grade squamous intraepithelial lesion (HSIL) criteria are named as atypical squamous cells of undetermined significance (ASC-US). The widespread use of this method has enabled early detection of cervical cancer and its precursors, thereby reducing cervical cancer-related morbidity and mortality rates.

ASC-US is acknowledged as one of the precursors of cervical cancer. HPV-DNA test has been employed extensively to identify whether patients diagnosed with ASC-US bear cervical cancer risk or not. This study aims at investigating the high-risk HPV types in patients with ASC-US diagnosis as per the cervical cytological materials in our clinic within two years (January 2023-January 2024) retrospectively, and the correlation of HPV presence with the pathologies in cervical squamous epithelium.

**Methods:** The patient group whose HPV DNA presence and HPV types (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68) were examined by the Real Time Polymerase Chain Reaction (RT-PCR) method following the diagnosis of ASC-US in the cervical liquid based cytological materials were recruited. These patients' results were reevaluated with archive review.

**Results:** 350 patients diagnosed with ASC-US were included. The patients' average age was 40 (aged 19-75). The number of patients whose HPV positivity was detected was 182 (52%). HPV was not detected in 168 of them (48 %). HPV 16, the most common HPV type, was n=70 (38.5 %). 17 patients on whom colposcopic biopsy/LEEP was administered and who were HPV-positive had HSIL, 33 patients had LSIL. In 60 patients (33 %), other than inflammation, no attribute was seen. In 9 of the HPV negative patients, no finding other than inflammation was observed in the biopsy. It was observed 6 patients had LSIL and one patient had HSIL (HPV 16 positive) that already existed. LSIL was observed in four patients and HSIL in one patient, who were followed up by smear and on whom biopsy was not administered. Overall, LSIL was detected in 37 HPV-positive patients (20.43%), HSIL in 18 patients (10%).

**Keywords:** ASC-US, cervical cytology, HPV