HPV DETECTION BY PCR IN A PATIENT WITH A CYTOPATHOLOGICAL REPORT FOR ASC-US: A CASE STUDY

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Cervical cancer is the fourth most frequent cancer in women worldwide, with approximately 6 million new cases annually[1]. Persistent infection with Human Papillomavirus (HPV) is the leading cause of precancerous cervical lesions and cervical cancer[2]. Papanicolaou test is the best screening method for detecting early squamous intraepithelial lesions (SILs), such as "Low-Grade Lesions (LSIL)"[3]. Although the *Bethesda System* cytopathological criteria are well standardized and systematized, some specimens have inconclusive morphological features that fall under category "Atypical Squamous Cells (ASCs)", such as ASC-H, a lesion of unknown grade, and ASC-US, unable to distinguish between lesion and reactivity. For this reason, molecular methods have been applied to detect HPV, complementing cytological evaluation and improving screening sensitivity[4]. Target amplification methods, such as Polymerase Chain Reaction (PCR), have been applied to analyze the risk of malignancy in patients with ASC-US or LSIL report[5]. The objective of this study is to report the case of a patient treated at the LPCM (Cytological and Molecular Research Laboratory) whose cytopathological evaluation indicated ASC-US. To investigate a possible HPV infection, a PCR was performed. In order to obtain her clinical data, the patient signed a TCLE (Free and Informed Consent Form), authorizing the application of a questionnaire prior to the Pap test. The case describes a 64-year-old woman patient. She reported pain, burning and itching. During the Pap test, performed with a cytobrush, leukoplastic areas and intense bleeding were visualized. Cytopathological evaluation revealed the presence of mature squamous epithelial cells with similar and inconclusive changes between reactivity and a mild nuclear atypia. In addition, typical endocervical glandular cells

and several polymorphonuclear cells were visualized. Despite the presence of nuclear atypia, the cytomorphological criteria were insufficient in concluding LSIL, leading to the ASC-US report. A Nested-PCR (N-PCR) was performed to detect the HPV, amplifying the DNA by using primers MY09/11 and GP5/6, which detect the L1 region of the viral capsid. The positive HPV detection suggests an early-stage viral infection which, if left untreated, can progress to more severe intraepithelial lesions and even a squamous cell carcinoma. The recommended approach, in this case, is to repeat cytology after 6 months since, despite the detection of HPV, the absence of viral genotyping prevents knowledge of its oncogenicity. It is clear, therefore, that the conciliation of cytopathological evaluation with molecular methods can increase diagnostic accuracy, contributing to screening and an effective therapeutic approach.

Keywords: Human papillomavirus; Pap test; Cervical cancer screening; Atypical squamous cells-undetermined significance; Polymerase chain reaction.

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