Prevalence of HPV 18 associated with precursor lesions of cervical cancer in women from the South Zone of São Paulo

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The papillomavirus (PV) belongs to a heterogeneous group of DNA viruses and still is a major issue due to the fact that the human papillomavirus (HPV) is an agent that predisposes to loss of stability and genomic integrity, which is why it has been associated with several types of cancer, including cervical cancer. This study aims to assess the prevalence of HPV18 types in women who undergo routine cervical cancer preventive examination in a university hospital in the southern region of São Paulo and its association with cervical cancer precursor lesions in cytopathological findings. This is a cross-sectional, descriptive study with a quantitative approach. The project was approved by the Research Ethics Committee under opinion number 4.237.294 and is in progress. Data are collected at the Gynecology and Obstetrics Outpatient Clinic of Hospital Escola Wladmir Arruda (HEWA). The volunteers are women over 18 years-old who follows at the HEWA gynecology outpatient clinic. The samples were collected and stored in liquid medium. These were sent to the UNISA research laboratory where the experimental steps were performed as follows: around 5ml of the sample are transferred to a falcon tube in order to concentrate the cells, then cells are washed twice with PBS and resuspended in 200ul of PBS. Then DNA was extracted with Pure Link DNA extraction kit (Invitrogen) and the detection of HPV18 was performed in Real Time PCR TaqMan platform with the following primers: HPV18F-E7 – AAGAAAACGATGAAATAGATGGA , HPV18R-E7 – GGCTTCCACCTTACAACACA and probe 5′FAM-AATCATCAACATTTACCAGCC-BHQ3′), following Veo et al., 2015 protocol, HeLa cells in the concentration of 1.10e7 cells were used as positive control. For the cytopathological analysis the samples are stained by the pap smear method. The results are partial and 50 women with a mean age of 44.18 years are participating. A prevalence of 4% of HPV subtype 18 was observed in the women in the study. The prevalence of samples with precursor lesions of cervical cancer was 17%. All positive samples for HPV subtype 18 had cytopathological alterations. These results are in agreement with previous studies that showed that HPV 18 subtype has a high risk for the development of cervical lesions. Thus, we highlight the importance of molecular

diagnosis associated with cytopathological diagnosis in cervical cancer screening to identify early the risk of lesions and prevent their progress in a timely manner.