Objective: The aim of this study was to analyze the HPV DNA types in both sentinel lymph node (SLN) and primary lesion of cervix in patients with cervical cancer.

Study design: 210 patients who underwent radical hysterectomy and pelvic lymphadenectomy with cervical cancer were enrolled in this prospective study. SLN and primary lesion of cervix were evaluated with microscopic pathologic examination as well as HPV DNA typing using HPV oligonucleotide microarray.

Results: HPV DNA types were successfully identified and sentinel node detection and frozen biopsy were performed on all 210 subjects. There were 154 benign and 56 malignant cases on frozen biopsy. On permanent histopathological specimen, there were 147 benign and 63 malignant cases. In 147 out of 154 cases determined to be benign on the sentinel node frozen biopsy, there were no pelvic lymph node metastasis on the permanent pathology. 7 cases found to be benign on the sentinel node frozen biopsy, there were pelvic lymph node metastasis on the permanent histopathology. These results are statistically significant (p<0.0001).

Conclusion: There were no cases that newly detected HPV DNA types in SLN in case of the absent types in primary lesion of cervix. These results imply that SLNs have an essential role for biological metastasis to secondary pelvic lymph node from the primary lesion of cervix. SLN detection and frozen biopsy make it possible to minimize the unnecessary extensive pelvic lymph node dissection during radical hysterectomy.