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RESEARCH

Overview of HPV Test Results with PAP Test in Patients with Cervical Precancerous Lesions at Dr M Djamil Hospital, Padang

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Abstract

Objective: To determine the description of the HPV Test results with the PAP Test in patients with cervical precancerous lesions at Dr. M. Djamil Padang.

Methods: This study used a descriptive method with a sample of all patients with cervical precancerous lesions who had the HPV test and PAP test results in Dr. M. Djamil Padang from January 1, 2015 - December 31, 2017. Data were taken from the patient's medical records, including diagnosis, PAP test results using the Hybrid Capture (HC) method, and HPV test.

Results: During the study period, 80 patients had PAP test results leading to precancerous lesions and cervical cancer. Of the 80 patients, only 4 cases with positive HPV test results. **Conclusion:** In this study, there were many cervical precancerous lesions with negative HPV test results.

Keywords: Cervical precancerous lesions, PAP test, the HPV test

INTRODUCTION

Cervical cancer is still a public health problem because it is the fourth most common cancer in women, where 85% of cases occur in developing countries. In Indonesia in 2012, cervical cancer is the second most common disease, around 20,928 new cases per year, and 9,498 of them end in death. One new case is found every minute, and every two minutes, one death occurs.¹ The increase in the incidence of cancer is estimated at 1% per year.²

Human Papilloma Virus (HPV) is a causative agent for cervical cancer. HPV types 16, 18, 31, 33, 35, 39, 45, 51, 52, 55, 56, 58, 59, 66 and 68 are high-risk HPV types that can cause cervical cancer. In general, many genital infection cases caused by this virus are associated with benign lesions on the cervix, which can disappear spontaneously within months or years. A screening program can be done using the HPV test and the Papanicolaou test (PAP test) to detect precancerous lesions.

This program has reduced the number of cervical cancer cases in developed countries. HPV sensitive test for screening for cervical precancerous lesions (CIN 2, 3) and cervical cancer. However, sometimes inconsistent results are found from these two tests, where



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patients with an abnormal PAP test have a negative HPV test result. This is still a question because HPV is still considered to be the main cause of cervical cancer. In a study that aimed to compare the sensitivity and specificity of the HPV-DNA test and the PAP test in 10,154 women between the ages of 30-69 years by Koiopoulos et al., it was found that the sensitivity of HPV-DNA test was 94.6%, the sensitivity of the PAP test was 55.4%. And specificity of 94.2% and 96.8% for CIN II and III, respectively. When these two tests were used together, the sensitivity increased to 100% and the specificity to 92.5%. This type of examination is called co-testing.^{3,6,7} This encourages the authors to investigate further the description of the HPV Test results with the PAP Test in patients with cervical precancerous lesions at Dr. M Djamil Hospital, Padang.

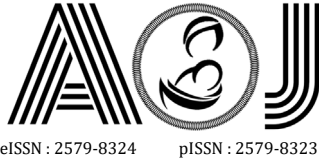
METHOD

This study used a descriptive method with a sample of all patients with cervical precancerous lesions who had the HPV test and PAP test results in Dr. M. Djamil Padang during the period January 1, 2015 - December 31, 2017. Data were taken from the patient's medical records, which included diagnosis, HPV test results using the Hybrid Capture (HC) method, and the PAP test.

RESULTS**Table 1.** The Results of PAP test and HPV test

PAP test	HPV positive	HPV negative
NILM (n:23)	0	23
ASC-US (n:3)	0	3
ASC-H (n:1)	0	1
LSIL (n:20)	0	20
HSIL (n:31)	2	29
Cervical cancer (n:2)	2	0

Based on table 1, it is known that, of the 80 patients studied with the results of the PAP test leading to precancerous lesions and cervical cancer, only 4 cases (5%) had a positive HPV test. There were 23 patients with NILM PAP test results, three patients with ASC-US, one patient with ASC-H, and 20 patients with LSIL, none of whom had positive HPV results. Of the 31 patients with HSIL results, only two patients (6.45%) were HPV positive. A total of 2 patients with cervical cancer PAP test results obtained 100% of positive HPV cases. In this case, it can be concluded that a positive HPV test result does not always follow a positive PAP test result. It is contradictory that HPV until now is considered the main cause of cervical lesions, either precancerous or cervical cancer, but different results were obtained in this study.



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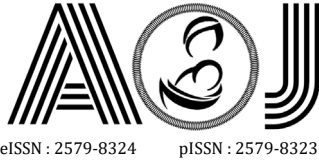
Website:<http://jurnalobgin.fk.unand.ac.id/index.php/JOE>**DISCUSSION**

Cervical cancer is the second most common cause of death from malignancy affecting women worldwide. The main causative agent is the Human Papillomavirus (HPV), which is the most common sexual viral infection transmitted to women of reproductive age. The main high-risk oncoproteins are E6 and E7, which deactivate the p53 protein and the Rb gene, acting as a tumor suppressor protein. The E6 protein binds to the p53 protein, so that cells lose their apoptotic ability, while the E7 protein binds to the Rb gene so that cells lose the control system for cell proliferation itself. So that there can be an increase in the rate of cell proliferation which leads to malignancy.^{5,8,9}

The results of this study indicate that the patient's PAP test results lead to precancerous lesions and cervical cancer, not always followed by a positive HPV test result. Evidently, from 80 samples of patients with abnormal PAP test results, only 4 cases or about 5% showed positive HPV results. From these results, it can be stated that the relationship between HPV infection and the incidence of cervical lesions has not been proven. Among the 4 cases with positive HPV, 50% were cervical cancer cases. Following the 2009 FIGO statement in Global Guidance for cervical cancer prevention and control, positive HPV is predominantly found in cases of precancerous lesions (CIN 2 and 3) and in cases of cervical cancer. In other words, for cases of PAP tests NILM, ASC-US, LSIL, and some cases of HSIL will get negative HPV results.

From a study on early detection of cervical cancer in Venezuela in 2016, it was stated that HPV could cause genital infections, causing benign changes in lesions and can spontaneously disappear in a matter of months or years. The infection is temporary, which can remain undetected in 90% of women, but has benign changes in cervical lesions. On the other hand, it is said that only some benign lesions (5%) can develop cervical cancer. The cause is high-risk HPV persistent infection that persists for years in the cervix. This may explain why HPV positives are more common in cervical cancer than in cervical precancerous lesions. However, this needs to be proven by further research.^{4,5,10}

Patients with negative HPV results and abnormal PAP tests are advised to repeat screening for another year. However, in cases with ASC-H or HSIL PAP test results, patients are advised to be immediately referred for colposcopy. Several HPV testing techniques are hybrid capture, DNA-HPV, and PCR. In this study, HPV examination was carried out using a hybrid capture technique against high-risk HPV. Further DNA-HPV or PCR testing can be considered to further prove the HPV test results in cases with abnormal PAP test results, whether there is a difference or not.



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CONCLUSION

In this study, there were many abnormal PAP test results with negative HPV test results.

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