Hong Kong Journal of Obstetrics and Gynaecology
(An Open Access Journal for Obstetrics and Gynaecology Research)

Review Article

Hong Kong J Obst Gynae
ISSN (e): 2663-8088
ISSN (p): 2663-8177
2020; 3(1): 01-04

www.gynaecologyresearch.com

Cervical Cancer Screening in COVID-19 Pandemic Era

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Abstract

Cervical cancer in Indonesia is still a major problem for women because it is the second most common type of cancer found and also the second leading cause of cancer death. Cervical cancer can be prevented by cervical cancer screening. There is currently the coronavirus disease 2019 (COVID-19) pandemic throughout the world, including in Indonesia, how is cervical cancer screening in the COVID-19 pandemic era.

Keywords: Cervical cancer, Screening, COVID-19.

INTRODUCTION

Cervical cancer in Indonesia is still a major problem for women because it is the second most common type of cancer found and also the second leading cause of cancer death [1]. The cause of cervical cancer is the Human Papilloma Virus (HPV) especially subtypes 16 and 18. Cervical cancer risk factors included early sexual intercourse and having multiple sexual partners, smoking, multigravida, low socioeconomic, using birth control pills, sexually transmitted diseases and impaired immunity [2].

In 2010 the estimated number of cervical cancer incidents was 454,000 cases. The data was obtained from cancer registration based on population, vital data registration, and verbal autopsy data from 187 countries between 1980 and 2010. The incidence of cervical cancer increased by 3.1% every year from 378,000 cases in 1980. It was found approximately 200.000 cervical cancer-related deaths, and 46,000 cases are women aged 15-49 years who live in developing countries [2].

According to GLOBOCAN 2012, cervical cancer ranks 7th globally in terms of the number of cases (6th in the underdeveloped countries) and 8th as a leading cause of death (contributing 3.2% mortality, equal to leukemia mortality rate). Based on GLOBOCAN 2018, there was a significant increase in cervical cancer rank as the 4th with a mortality number was 7.5% [3]. Cervical cancer ranked in 1st as a leading cause of death in developing countries, ranked in 10th in developed countries, and ranked in 5th globally. In Indonesia, cervical cancer was the second of the 10th most common cancer based on the data from Pathology Anatomy in 2010 with an incidence rate was 12.7%. According to the Indonesian Ministry of Health estimates, the number of cervical cancer new cases in women ranges from 90-100 cases per 100,000 population, and approximately 40 thousand cervical cancer new cases were found every year [2].

Cervical cancer is a disease that can be prevented because it has a long enough precancerous phase. The incidence of cervical cancer requires a process between 3 to 20 years starting from HPV infection to becoming cancer. Thus, routine screening is necessary for the early detection of cervical cancer [4]. The incidence of cervical cancer can be reduced with primary prevention steps such as increasing the counseling activities to the community to run a healthy lifestyle, avoiding cervical cancer risk factors, immunization with the HPV vaccine and followed by early detection of cervical carcinoma through pap smear or VIA (visual inspection with acetic acid) examination [5,6].

SCREENING RECOMMENDATION

The cervical cancer screening program aims to reduce the incidence, morbidity and mortality, and other side effects that may occur. Screening strategies can be single or multiple tests which followed by available adequate and effective diagnostic procedures before being referred for therapy [4-6].

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Examination/screening program that is recommended for cervical cancer (WHO): screening is done since the age of 30 years with priority to every woman at least once at the age of 35-49 years. If the facilities are available, repeat examination every 10 years for women aged 35-55 years. If more facilities are available, repeat examination every 5 years for women aged 35-55 years. Ideally, repeat examination every 3 years for women aged 25-60 years.

TYPES OF CERVICAL CANCER SCREENING TEST

The types of screening tests that are recommended by WHO included: [4,5]

1. Cytology Test (Paps Smear)

The Pap test or Papanicolaou Smear is a uterine cervix examination using a speculum. The purpose of the test is to find abnormal cells that can develop into cervical cancer and determine the level of malignancy of cervical precancerous lesions. The indications for pap smears are screening for women who have had active sexual intercourse, early detection of malignancy in the cervix, monitoring after surgery, radiotherapy, or cervical cancer chemotherapy. An estimated 40% of invasive cervical cancers can be prevented by pap smear screening intervals of 3 years. It has a sensitivity of 44-78% and a specificity of 91-96%. However, pap smear examination shows a high false-negative number, around 5-50%, this is due to inadequate specimens, where the smear is too thin or thick, there is no transformation zone or endocervical component, the presence of blood in the specimen and inadequate fixation. It also cannot detect the presence or absence of HPV.

2. VIA (Visual Inspection with Acetic Acid) Test

The method of the VIA test is to apply the uterine cervix with a 3-5% acetic acid solution, then after one minute observe any abnormality such as a white area (acetowhite lesion). VIA test is indicated as screening for cervical cancer and it is not recommended in postmenopausal women, because the transitional zone area is often located in the uterine cervical canal and not visible by speculum examination. It can be examined regardless of the menstrual cycle, even during the menstruation period and after giving birth or miscarriage. It is ideally done for women of reproductive age. It has advantages such as easy, simple, fast, and inexpensive and the results can be immediately known after the examination. It has a sensitivity of 67-79% and specificity of 49-86%, suitable as an initial screening stage. Also, IVA tests can be carried out by trained medical doctors or midwives in primary health care.

3. HPV (Human Papillomavirus) DNA Test

An HPV DNA test is a screening method using a special tool to take fluid specimens around the uterine cervix ostium. It is indicated to high-risk groups for exposure to HPV infection. It is examined by taking the samples from the upper part of the vagina and uterine cervical ostium. There is plenty of evidence suggest that screening with cytology and HPV DNA increases the sensitivity of the detection of the prevalence of CIN 3 or invasive cancer in terms of the frequency of screening distances compared to a single cytology examination. The sensitivity level ranges from 66-100% with a specificity of 61-96%. According to the scientific evidence, there is an increase in sensitivity with this combination method and a longer screening interval than a single cytology examination.

The three recommended tests can be used as a single screening test or in stages. When used as a single test, positive results indicate the importance of therapy. When used in stages, women who get a positive result on one of the tests will continue to the second screening test and if the result is also positive, then they will undergo therapy. However, if a positive result on the first screening test is followed by a negative result on the second test, then they will be observed continuously [4-6].

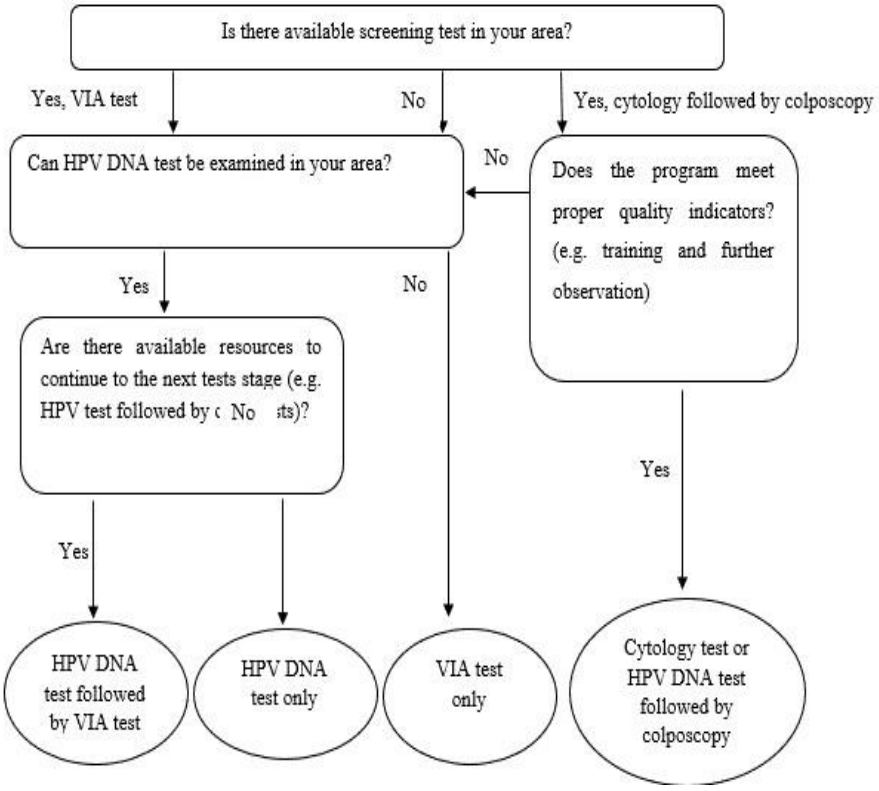

Figure 1: Algorithm to determine WHO recommendation screening tests

SCREENING IN PANDEMIC COVID-19 ERA

The latest data from WHO on June 8th, 2020, reports that 6,931,000 confirmed COVID-19 cases worldwide with a mortality rate of 400,857 people [7]. In Indonesia on June 8th, 2020, the government reported 32,033 confirmed positive cases of COVID-19 and 1,883 deaths related to COVID-19 [8]. Predictions about the end this pandemic is still unclear. It relates to many factors, including socio-cultural conditions outside the health care institutions. Despite the limitations of existing knowledge and data, COVID-19 is indeed a new thing for everyone (even for medical teams) [9].

COVID-19 disease is a truly new disease, there is still no consolidated guideline or reference as basic management. Anxiety does not only occur among patients but also among health care providers. Health care providers are faced with a dilemma between the obligation to provide the best quality service and the limitation of available resources. Various imbalances in existing conditions can cause various problems, such as [9]:

1. Prevention of Coronavirus transmission is not optimal yet (recommendations stay at home, physical distancing, use of masks, understanding COVID-19 transmission).

2. Early signs and symptoms of COVID-19 are not typical [10].

3. The diagnosis of COVID-19 is not easy (diagnosis using real-time RT-PCR) [11].

4. No management has been proven to be the most effective for COVID-19.

5. Limitations of personal protective equipment for COVID-19.

6. Limitations of space and supportive tools for COVID-19 management.

In the absence of a COVID-19 pandemic, cancer is one of the major problems for human health. The difference between cancer and other diseases is its ability to spread and recur in a certain period, that makes the result of cancer is often described in overall survival and progression-free survival [9]. Cervical cancer is a preventable disease, therefore, special strategies are needed in screening cervical cancer during the COVID-19 pandemic.

American Society for Colposcopy and Cervical Pathology (ASCCP) Guideline [12].

The ASCCP recommendation for cervical cancer screening tests during the COVID-19 pandemic is that patients with low-grade results on cervical cancer screening can delay diagnosis evaluation for 6-12 months, while high-grade evaluation can be examined within 3 months. The use of personal protective equipment (PPE) must be considered for all patient visits. Decisions for the type of PPE must be adjusted with the Central for Disease Control and Prevention (CDC) recommendations, regional guidelines or hospital guidelines and the patient's COVID-19 status. When performing procedures that require electrocautery, smoke evacuators, PPE must be used to reduce the potential for aerosol spread.

This recommendation is not considered a definitive management guideline and in some individuals with abnormal cervical cancer screening tests with histological findings will require a case-by-case review. These guidelines may change due to changes in the health care environment. Health care providers must continue to use tracking protocols to ensure that patients with abnormal results can be called when the COVID pandemic subsides.

National Cervical Screening Program (NCSP) Guide [13]

The Australian Department of Health monitors the impact of the COVID-19 pandemic on health services. Especially on the NCSP program that has been running for 30 years. During the COVID-19 pandemic, the Australian Department of Health realized that patients might feel uncomfortable or worried to attend a screening. The Australian Department of Health also received many questions from health care providers about the best way to support their patients during this pandemic. When this pandemic still occurs, it is not possible to offer usual health services for cervical cancer screening, this comprehensive guideline has been developed to help make clinical decisions on screening appointments including postponement and rescheduling, depending on the circumstances of each patient.

Symptoms of cervical cancer

Every individual who experiences symptoms of cervical cancer (such as abnormal unexplained vaginal bleeding - after sexual intercourse, between periods, or post-menopause; unusually persistent unexplained vaginal discharge; or deep pain during sexual intercourse) must be assessed clinical and investigated according to Clinical Management Guidelines.

New screener – aged 25 years

Women who are 25 years old will be sent a letter inviting them to start cervical screening. These women were offered HPV vaccinations in schools, so they had substantial protection either through direct HPV vaccination or through herd immunity. If necessary, rescheduling screening appointments in this group within the next 3-6 months is considered a low risk.

Routine screener

The Australian Department of Health for more than two years uses the update NCSP, which modify from a 2-year screening interval to a 5-year screening interval. Anyone who has been screened since December 1st, 2017, will not be screened again until at least 2022.

Overdue or never-screened

If a patient requests cervical cancer screening and it has been more than two years since their last Pap test, they are late for screening. It is recommended to screen these patients when they are present.

Patients aged 30 years or older who have never participated in cervical cancer screening should be offered a cervical cancer screening test without delay.

Follow-up testing and investigation

1. Medium-risk management - 12 months follow-up positive HPV non 16/18 (with negative or low cytology)

This patient should be retested at the recommended time wherever possible. While delays of 3 to 6 months may be acceptable, a delay of more than 6 months is not recommended.

2. High-risk management (positive HPV 16/18, or positive HPV non 16/18 with the high or worse possibility of cytology)

Patients with high-risk outcomes should be referred to a specialist for further investigation without delay. Some colposcopy clinics are currently experiencing high demand and long waiting lists - if you are worried that patients are experiencing delays because of this please contact the specialist doctor or the referral clinic.

3. Healing test after therapy for HSIL (high grade squamous intraepithelial lesions) (CIN2 / 3)

A woman who has been treated for HSIL (CIN2 / 3) must do a co-test 12 months after treatment, and every year thereafter, until she receives negative co-test results on two consecutive tests, after that she can do screening every 5 years.

British Columbia (BC) Cancer Guideline [14]

The COVID-19 pandemic had an impact on cervical cancer screening activities in BC, Canada. Currently, visiting health care providers in BC for a Pap test is not recommended because of the following reasons:

- Pap tests are non-urgent and non-emergency screening tests. By not visiting health care providers, we support physical distancing which will help to minimize COVID-19 transmission.

- If the patient receives an abnormal Pap result, the follow-up procedure may be delayed. The health authority is conducting a triage procedure in a colposcopy clinic based on the capacity of the health care facility.

If you experience symptoms such as abnormal vaginal bleeding (such as vaginal bleeding between menstrual periods, vaginal bleeding during/after sexual intercourse or post-menopause), abnormal or persistent vaginal discharge, pelvic pain, or pain during sexual intercourse, please contact the health care provider [14].

Bhatla N and Singhal S study suggests that women who will undergo any screening test should be advised to reschedule the visit when the pandemic is over and be assured that a delay of several months will not have a significant impact. Similarly, women who must be treated or followed up after treatment of pre-invasive lesions can also postpone their visit for the same period. They should be advised to consult a health care facility by telephone if they have symptoms, in this case, a diagnostic procedure can be recommended [15].

CONCLUSION

Cervical cancer is a malignant tumor that most commonly found in the female reproductive system. Cervical cancer is a disease that can be prevented because it has a long precancerous phase. Therefore, routine screening is needed to detect cervical cancer early. Currently, the world is experiencing a COVID-19 pandemic, special strategies are needed for cervical cancer screening.

Conflict of Interests

The authors declare that they have no competing interests.

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