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## CERVICAL CANCER: RELEVANCE AND TREATMENT METHODS

**Abstract:** The article under discussion discusses cervical cancer, the relevance of the disease and methods of treatment. The author of the article believes that cervical cancer is a widespread disease worldwide, which according to the latest data ranks 3rd among all malignant neoplasms affecting women of reproductive age. Screening is important, but it cannot detect all precancerous lesions or all types of cancer. Quality screening will reduce the incidence and mortality of advanced cervical cancer. Vaccination performed in conjunction with screening reduces the risk of cervical cancer compared with screening alone, and also significantly reduces the number of pathological changes detected by screening that require follow-up.

**Key words:** cervical cancer, cervical cancer diagnosis, cervical cancer screening.

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### Introduction

Cervical cancer (CC) is a worldwide widespread disease that according to recent data takes the third place among all malignant neoplasms that affect women of reproductive age. It has been established that a necessary condition for the occurrence of precancerous changes in the cervix is the presence of certain human papillomaviruses (HPV), the subsequent integration of which can lead to the development of cancer. CC is a visual form of the disease, so the possibilities of its early detection are practically unlimited. Proper use of available and informative methods of morphological and endoscopic diagnostics is sufficient for this purpose. Cervical cancer for many years is preceded by precancerous lesions - cervical intraepithelial neoplasia (CIN). Timely diagnosis and treatment of CIN becomes the prevention of invasive CC [1].

### Main part

CINs are initiated in the area of cervical transformation and supported by persistent infection caused by human papillomaviruses (HPV) of high carcinogenic risk. Three grades are conventionally distinguished:

- CIN 1 (mild dysplasia);

- CIN 2 (moderate dysplasia);
- CIN 3 (severe dysplasia and preinvasive cancer - carcinoma in situ, CIS).

Diagnosis of severe CIN is the main goal of organized screening and prevention of CC, and CC perfectly meets the requirements for diseases that are subject to highly effective and cost-effective screening: a long period of development with significant precancerous forms, sensitive enough, specific and inexpensive tests (cytological and HPV detection), the possibility of early diagnosis and treatment at CIN stage with a guarantee of recovery. There is a system of examination rooms, where women are referred when they go to district polyclinics for cytological smears. For the last 10 years, non-state institutions often determine high carcinogenic risk HPV by PCR (polymerase chain reaction) method. A positive HPV test result also serves as a reason for extended examination of female patients. In addition, there is now a clear increase in the incidence of the disease in young women under 40 years of age.

Risk factors for squamous cell carcinoma: early onset of sexual activity, sexual activity, frequent change of sexual partners not only by the woman herself, but also by her male partners, non-observance

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of sexual hygiene, sexually transmitted diseases, viral infections, tobacco smoking, immunodeficiency, vitamin A and C deficiency, possible use of oral contraceptives [3].

Treatment of CC depends on the stage of the disease, but in younger patients

is a question of organ-preserving treatment. The organ-preserving operations for cervical cancer include: cone-shaped electroexcision, knife conization and cervical amputation, laser and ultrasonic cone-shaped excision, radio-surgical method, extended trachelectomy.

At the same time, organ preserving treatment should be radical and performed only under certain conditions: minimal invasion of the tumor into the stroma (up to 2-3 mm); absence of invasion into the vessels and tumors at the resection margin; squamous cell carcinoma (highly or moderately differentiated); age under 40 years old; presence of an experienced morphologist in the clinic; possibility of dynamic monitoring. The execution of such surgeries are possible only in specialized hospitals [11].

Taking into account the increase in neglect rate, more autonomous and aggressive course of CC, especially in young women, in comparison with hormone-dependent genital tumors, drug therapy and its combination with radiation and surgical treatment of BC patients is currently more widely introduced in clinical practice [5].

The adequate extent of surgical intervention for stage IA1 cancers the adequate surgical procedure is cervical conization with subsequent scraping of remaining cervical canal and, if indicated, uterine cavity, if there is no tumor in the resection margin and scraping of remaining cervical canal (I, A). If there is concomitant gynecological pathology or there is no necessity to preserve reproductive function in patients with stage IA1 CC, the uterine extirpation (type I surgery) may be performed [13].

If the cervical resection margins or the scrapings from the remainder of the cervical canal detects dysplasia or cancer cells, the risk of residual tumor is high enough, and a second conization is necessary before determining further treatment options. If cancer emboli are found in blood or lymphatic vessels when the tumor invades the stroma up to 3 mm deep, there is an increased risk of metastatic involvement of regional lymph nodes. In this case, the patient should undergo a modified dilated uterine extirpation (type II surgery).

In the presence of one of the high-risk factors for progression after type III dilated uterine extirpation (lymph node metastases, parametrium involvement or tumor at the vaginal resection margin), adjuvant chemoradiation therapy (LT + weekly cisplatin at a dose of 40 mg/m<sup>2</sup> for the duration of LT) is indicated. For lumbar lymph node metastases, extended-field irradiation is performed.

Intermediate risk of progression group.

If there are no high risk factors for progression after type III dilated uterine extirpation, but if at least two of three factors are present (tumor invasion of more than one-third of the thickness of the cervical myometrium; tumor invasion of lymphatic and blood vessels; large primary tumor size - 4 cm) adjuvant LT is indicated.

Low risk group for progression. After type III dilated uterine extirpation, if there are no high risk factors for progression, but one of three factors (tumor invasion more than one third of the thickness of the cervical myometrium; tumor invasion of lymphatic and blood vessels; large primary tumor size - 4 cm) is not indicated for adjuvant treatment.

If there are metastases in the pelvic lymph nodes, lumbar lymphodissection is necessarily performed. Patients with metastases in the lumbar lymph nodes, extended-field irradiation is performed.

One of the ways to reduce mortality from malignant neoplasms is screening - detection of asymptomatic cancer through mass preventive examinations. Screening for RSCC has significantly reduced the rate of cervical cancer and the number of deaths. DNA testing for human papillomavirus (HPV) detection was first included in the American Cancer Society's (ACS) guidelines for early detection of RSCs in 2002. Since then, numerous studies have been published to support the proposed type of age-specific screening, as well as treatment of pathologies diagnosed by screening [1].

According to the 2014 WHO Guidelines for the Comprehensive Management of CC: A Guide to Essential Practice, it is recommended that [7]:

1. Vaccinate girls aged 9-13 years with two doses of HPV vaccine to prevent infection with HPV, which causes most cases of CC. A shortened two-dose vaccination regimen has been shown to be as effective as the three-dose regimen currently in use. Switching to a two-dose regimen will make vaccination easier and less expensive.

2. Use HPV tests to screen women for the prevention of cancers. Testing for HPV will reduce the frequency of screening. If screening results are negative, a woman may not have to be screened again for at least 5 years, but she must be screened within 10 years. Compared to other types of tests, this means significant cost savings for health systems.

3. Inform a wider audience. The guidelines suggest shifting the focus from recommending screening for women over age 29 to informing a broader audience (adolescents, parents, educators, managers, and people working at all levels of the health system) to ensure that women are reached throughout their lives.

## Conclusion

Thus, screening is important, but it cannot detect all precancerous lesions or all cancers. Quality

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screening will reduce the incidence and mortality of advanced cervical cancer.

Vaccination performed in conjunction with screening reduces the risk of cervical cancer compared

to screening alone, and also significantly reduces the number of pathological changes detected by screening that require follow-up .

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