

Current Trends in Papillomavirus, Helicobacter and Hormone-Dependent Tumor Diseases and Ways to Reduce the Threat

Cherenkov VG* and Pasevich KG

Department of clinical Oncology center, FGBOU VPO Novgorod University, Russia

***Corresponding author:** Dr. Cherenkov VG, FGBOU VPO Novgorod University, Yaroslav-The-Wise GOBUZ Regional clinical Oncology center, Veliky Novgorod, 27 Lomonosov street, Russia, Tel: 88162620782; Email: nokod@mail.ru

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Abstract

The analysis of trends in morbidity and mortality from papillomavirus, Helicobacter and hormone-dependent tumors. It is shown that despite the ongoing preventive measure, this category of patients is increasing, which requires measures aimed not at the consequence, but at identifying the causes of the disease.

Keywords: Papillomavirus; Helicobacter Infections; Estrogen-Dependent Diseases

Abbreviations: DM: Diabetes Mellitus; HPV: Human Papilloma Viruses; PCR: Polymerase Chain Reaction.

The current century, according to the world health organization and the International diabetes Institute, is characterized by the threat of excessively increasing incidence of diabetes mellitus (DM), papilloma-viral (HPV) and Helicobacter infections (*H. bac.pyl*), which will continue to be accompanied by a parallel increase in cancer pathology. Human papilloma viruses of high oncogenic risk (HPV 16, 18, 32, etc. types) are the cause of cancer of the oral mucosa and larynx, cervix, vulva, vagina, penis, neck skin, scalp, endometrium, and even prostate [1].

The first place in the number of oncopathologies caused by HPV is occupied by cervical cancer, often combined with vulva cancer. Over the next 10 years, the incidence of cervical cancer will increase by another 25%, mainly among young women of working age, if adequate measures are not taken. HPV is easily transmitted by contact (domestic and sexual, in

which even condoms do not help), can be long in the basal layer of the epithelium and manifest in 10-30 years with a decrease in immunity and exposure to cofactors (Figures 1 & 2).

Most people are infected with NRM and infect others. Unfortunately, in doctors do not describe the presence of papillomas in medical documents for medical examination, observation of pregnant women, outpatient charts or medical histories, taking them for "harmless" skin elements.

There are three forms of papillomavirus infection: clinical; subclinical; latent or laboratory. However, no one can tell without a genetic study the type of HPV, although we have all the necessary laboratory equipment (liquid Cytology, laboratory for genetic identification-PCR). Currently, the who Committee is setting new priorities for screening of RSM: General cytological screening of women aged 18 and older (up to 70 years), and in the detection of dysplastic process and coilocytosis, PCR, whose sensitivity is so high that it can determine HPV when there is still no dysplasia [2].

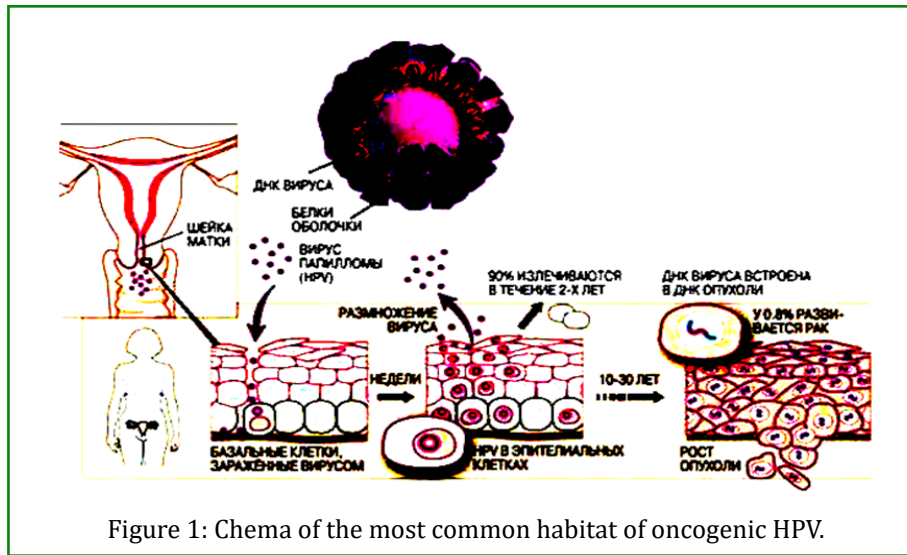


Figure 1: Chema of the most common habitat of oncogenic HPV.



Figure 2: Clinical forms in HPV patients with endometrial (a) and cervical (b) cancer.

Material and Methods of Analysis

Despite the availability of technologies in the region, the issue of detection of HPV and prevention of papillomavirus tumors remains not fully implemented. The reason for this is the closure of examination rooms in 2012-2013 due to the refusal of insurance companies to pay for visits to these offices. In 2014, examination rooms are not working full-time clinics, in 10 offices - midwives work at 0.5 rates. As a result, the coverage of women with cytological screening does not reach 50%, and the total number of cancer patients detected during preventive examinations does not exceed 10% (in Russia - 13%) (Table 1).

Comparative indicators of morbidity (per 100 thousand people.) and the proportion of advanced cases of papillomavirus forms of cancer in the Novgorod region (2010-2017)								
		2010	2011	2012	2013	2014	2015	2017
Tongue Cancer								
Morbidity	V	0,56	0,6	0,52	1,75	0,79	0,8	0,82
	M	3,49	3,3	3,4	3,09	4,65	4,5	4,7
% of negl. cases		59,3	59,5	60,0	65,2	72,1	64,4	73,1
Cancer of the Larynx								
Morbidity*		1,92	2,3	2,2	2,6	2,7	3,2	3,28
% of negl. cases		17,9	11,8	9,1	18,8	25,0	24,2	24,8
Cervical Cancer								
Morbidity		24,4	24,9	25,7	25,9	24,5	29,0	24,2
% of negl. cases		16,1	21,8	33,7	22,7	19,1	34,6	32,1
*both sexes								

Table 1: Comparative indicators of morbidity (per 100 thousand people.) And the proportion of advanced cases of papillomavirus forms of cancer in the Novgorod region (2010-2017).

As can be seen from table 1, not only the incidence, but also the proportion of neglected cases with certain fluctuations increased in all localities, and in cancer of the tongue reached 73.1%. With such screening, it is not possible to solve the problem of not only prevention, but also timely detection of papillomavirus forms of cancer. The incidence of Vulva Cancer over the past 15 years (2000-2014) has increased more than 2 times.

The situation is no better with the prevention and early diagnosis of vulva cancer.

As can be seen from table 1, not only the incidence, but also the proportion of neglected cases with certain fluctuations increased in all localities, and in cancer of the tongue reached 73.1%. With such screening, it is not possible to solve the problem of not only prevention, but also timely detection of papillomavirus forms of cancer. The situation is no better with the prevention and early diagnosis of vulva cancer (Figure 3).

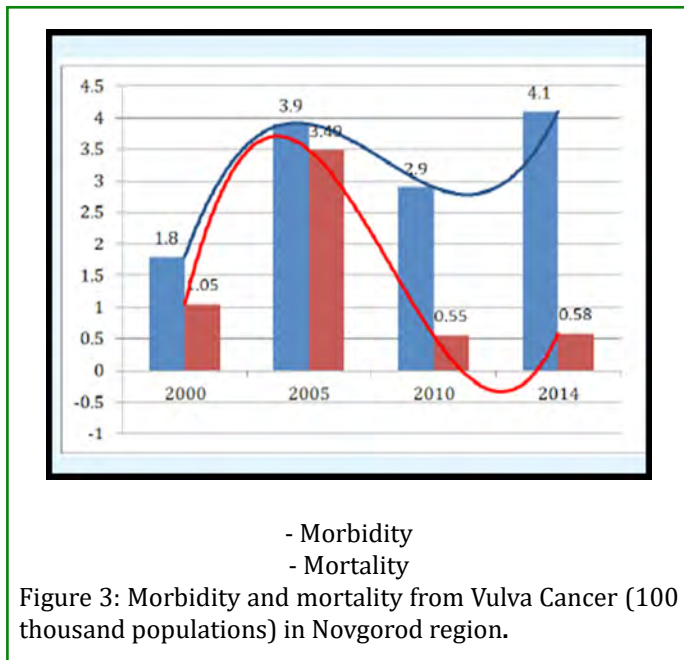


Figure 3: Morbidity and mortality from Vulva Cancer (100 thousand populations) in Novgorod region.

And although over the same period, the mortality of women from Vulva Cancer was reduced not by early detection, but by the development and implementation of advanced reconstructive plastic surgery for common forms of cancer of the external genitals [3]. Stomach cancer in men and women, respectively, takes 2-3 places in the overall structure of malignant neoplasms, taking their lives every year in Russia, almost million people, and in the Novgorod region-300. The modern concept of gastrocancerogenesis is based on the leading role of *Helicobacter pylori*, transmitted at the household level. A relatively simple method for establishing microbial infection is the urease test. The most reliable

method of diagnostics of *Helicobacter pylori* is histological.

Every year in the region about 5 thousand fibrogastrosopies are performed in medical institutions of the region. Unfortunately, only Novgorodskii dispensari (NOKOD) perform chromovirectomy and collection of material for *Hel. bac.pylori*. Endoscopic studies of NOKOD patients of the Novgorod region suffering from chronic gastritis and gastric ulcer showed that more than 75 % of them are carriers of *Helicobacter pylori* [4].

The incidence of breast cancer in the Novgorod region, as in most countries, for decades. They have been growing continuously for 2-3 decades. And this can no longer be explained only by the expansion of screening. We are talking about a true increase in morbidity. Patients suffering from type II diabetes, in which insulin-like growth factor contributes to the growth and development of cancer cells, are 50% more likely to get sick and die from breast cancer, endometrial, colorectal and other forms of cancer. Experts recommend that all women over the age of 40 who suffer from diabetes, regularly conduct opportunistic mammographic screening to timely diagnose diffuse and nodular mastopathies, and after 45 years to do a colonoscopy to identify and remove polyps that can develop into malignant tumors [5].

A new vector of tactics for mastopathy in Russia is active oncoprophylaxis with the participation of obstetricians and gynecologists, who, according to the order No. 572n of the Ministry of health of the Russian Federation from 2012, are charged with the detection of breast diseases, dispensary observation and treatment of diffuse mastopathies, nodular mastopathies after surgical removal of focal formations in a specialized institution. Numerous studies have proved that today the most pathogenetic drug is indole-3-carbinol (Indole-Forte), as a universal corrector of pathological hyperplastic processes in the organs and tissues of the female reproductive system (breast, endometrium, myometrium, cervix, ovaries).

The drug normalizes not only the balance of estrogens, but also has the ability to cause selective death of transformed cells with abnormally high proliferative activity [5]. Our experience of prescribing this drug 200 mg 2 times a day for 3-6 months to 55 women after operations for nodular mastopathies and their observation for 1-1.5 years showed a decrease in the level of serum estrogens to normal parameters (taking into account the phase of the menstrual cycle, the absence of discomfort from the mammary glands, painful swelling, re-formation of nodular mastopathies, whereas in the control group (116 women), 6 (5.1%) patients with metachronous nodular mastopathies were operated again. Preliminary results confirm the literature data on the possibility of active cancer prevention.

Summary

- Despite the availability of laboratory and endoscopic technologies for the detection of papillomavirus and Helicobacter infections, which are associated with more than half of oncological diseases, until now they have not become the subject of attention and active preventive programs of health organizations by insurance companies in the region.
- Opportunistic mammographic screening of patients with diabetes, obesity and other risk factors in the direction of endocrinologists, gynecologists and therapists should be considered a further step aimed at identifying mastopathy and hyperplastic processes and prevention of cancer of the reproductive system.
- Indole-3-carbinol (Indole-Forte) is a universal corrector of pathological hyperplastic processes of the female reproductive system (breast, endometrium, myometrium, cervix, ovaries).

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