

Section 2. Medical science

DOI:10.29013/EJTNS-24-1-11-15



ASSOCIATED SOMATIC DISEASES IN PATIENTS WITH CERVICAL CANCER (SAMPLE ARTICLE)

Polatova D. Sh.¹, Artikhodzhaeva G. Sh.²

¹Tashkent State Dental Institute, Center for Pediatric
Hematology, Oncology and Clinical Immunology

²Tashkent State Dental Institute, Center for Professional
Development of Medical Workers

Cite: Polatova D. Sh., Artikhodzhaeva G. Sh. (2023). Associated Somatic Diseases in Patients With Cervical Cancer (Sample Article). *European Journal of Technical and Natural Sciences* 2024, No 1. <https://doi.org/10.29013/EJTNS-24-1-11-15>

Abstract

Disturbance of the balance of sex hormones leads to atrophic or hypertrophic degeneration of genital tissues. To study the hormonal background in vaginal cancer, we studied the level and ratio of estrogen metabolites in vaginal cancer, as in other cancer localizations.

Keywords:

Introduction

Enter As mentioned above, the imbalance of sex hormones leads to atrophic or hypertrophic degeneration of the tissues of the

genital organs. To study the hormonal background in vaginal cancer, we studied the level and ratio of estrogen metabolites in vaginal cancer, as in other cancer localizations.

Table 1. Levels and ratios of estrogen metabolites: 16 α -ONE1 and 2-ONE1 in vaginal cancer

| Mean level of metabolites (ng/ml) | Cancer patients | Control group |
|-----------------------------------|------------------|------------------|
| 2-OHE1 | 14.02 \pm 3.17 | 28.12 \pm 8.30 |
| 16 α -OHE1 | 19.91 \pm 5.74 | 9.33 \pm 2.49 |
| 2-OH1/16 α -OH1 | 0.70 \pm 0.55 | 3.01 \pm 0.33 |

From the data presented in the table, it can be seen that with vaginal cancer, as in other tumor localizations, there is a clear imbalance in the hormonal picture compared

to the control group. In the case of Qin cancer, the mean level of metabolite 2-ONE in the patient group was 2.38 times lower than that of the control group. Meanwhile, the av-

erage level of metabolite 16α-ONE was 2.13 times higher than that of the control group. The proportions of metabolites in the groups also showed significant, statistically significant ($P < 0.01$) differences. In the control group, the value of 2-ONE / 16a-ONE was 4

(4.49) times higher than the same coefficient for patients with vulvar cancer. The somatic condition of women with genital cancer did not differ from the somatic health of women with cancer elsewhere (Table 2).

Table 2. Comorbidities of women with vaginal cancer were included in the study

| Nosological form | Number of patients |
|----------------------|--------------------|
| Obesity | 9 (56.3%) |
| Hypertension disease | 5 (31.3%) |
| IUD | 2(12.5%) |
| US diseases* | 8 (50%) |
| Hypothyroidism | 1 (6.3%) |
| GT diseases * | 6 (37.5%) |
| Chronic hepatitis | 2 (12.5%) |
| Hepatositis | 4 (25%) |
| COLD * | 6 (37.5%) |
| Total | 43 (268.8%) |

* *Note: IUD is an ischemic heart disease; US – urinary system; GT – gastrointestinal tract; COLD – chronic obstructive lung disease*

Often, patients with vaginal cancer suffer from obesity, inflammatory diseases of the urinary system (chronic pyelonephritis, cystitis) and chronic obstructive pulmonary diseases. It is known that in addition to the respiratory function, the lungs also perform endocrine functions. Lung tissue releases biologically active substances such as fibrinolytin. Also, lung tissue plays an important role in processes such as hormone production, water-salt and lipid metabolism. Blood collects in the vascular system of the lungs. The respiratory system also provides immunity against harmful environmental factors. In this regard, during the general improvement of the patient's body, the accompanying lung disease should not be neglected.

Microscopic examination of vaginal discharge to detect vaginal infections (for example, trichomoniasis, bacterial vaginosis, candidiasis), on the basis of which the cleanliness of the smear is evaluated in the studied patients. Most cervical cancer patients have an abnormal smear during the initial examination. Thus, the cleanliness of the smear of the third degree was detected in 64.5% of patients, in 21.1% of patients of the fourth degree, a pathological smear was detected in 85.6% of patients. Treatment did

not improve smear purity; more pronounced deviations regarding contamination during radiation therapy were noted; pathological smear was observed in 65.7% of patients before radiation therapy; during the treatment and after the end of radiation, 86.9% of patients had a worsening of the microbiocenosis, with chemotherapy, this figure was 63.3% before treatment and 71.4% after it. Despite the use of antibiotics during surgical treatment, smear purity deteriorated from 59.4% to 65.6%, mainly due to the growth of yeast-like fungal colonies and necrotic masses. The content of many bacteria was pathologically high. For example, gardnerella is a saprophytic (conditional pathogen) infection, but with an increase in their number, it causes inflammation, reduces protective functions, local immunity, which creates a favorable environment for the attachment and reproduction of other pathogenic microorganisms and promotes their emergence. the development of diseases such as colpitis, cervical ectopia, less often – leukoplakia, cervicitis, adnexitis, endometriosis, cystitis and pyelonephritis. In every second case, genital chlamydia was detected in smears, which contributes to the development of diseases such as endometritis, salpingo-oophoritis, and salpingitis.

The main part

In our study, overgrowth of *Candida albicans* was detected in 30.1% of cases. All patients (104 patients) who did not receive additional therapy for various reasons during the main course of treatment aimed at combating an established infection were microbiologically examined, mainly those who received chemotherapy (49 patients) and radiation (8 patients). Treatment with specialized UV light led to the worsening of the microbiocenosis in the cervix and vagina. Severe microbiological damage to the organ was noted. The number of *Candida albicans* and *Gardnerella* increased by two, *Ureaplasma* (*Ureaplasma urealyticum* i *Ureaplasma parvum*.) increased by more than 22%, and high titers of genital chlamydia increased dramatically. *Ureaplasma* produces a special enzyme that causes the breakdown of immunoglobulin A, thereby reducing immunity against infection. We looked for different types of human papillomavirus in all 161 patients with cervical cancer. In cervical cancer, mainly human papillomavirus types 16 and 18 (HPV-16, HPV-18) are identified. These are high-risk viruses; the second low-risk group is less often associated with malignant tumors (viruses 6, 11, 42, etc.). As shown in the table, cervical cancer patients were mainly affected by viruses of types 16 and 18, while dangerous (high) titer was detected in 64.6% of human papillomavirus type 16 and in almost 50% of titer of type 18. HPV was detected in 119 (73.9%) patients, and 16 types of the virus were detected in all cases. Of 119 (100%) patients, HPV-16 and 79 (66.4%) HPV-18 were detected at high titers in 104 (87.4%) patients. In 15 patients with a low titer of HPV-16 (12.6%), high titers of HPV-18 and 42 were noted. The special treatment carried out, for example, radiation and cytostatic therapy, contributed to the further deterioration of the microbiocenosis of the cervical canal and vagina. The hormonal level of 83 patients was checked (studied). Patients' blood and cervical biopsy materials were analyzed. Estrogen (estradiol), thyroid hormones, glycated hemoglobin, prolactin and progesterone levels were studied. In patients with uterine cancer, as well as cervical cancer, mainly 16 and 18 types of viruses were at a high level, dangerous (high)

titer of HPV-16 was detected in one third, 28.9% of 18 types. HPV was detected in 23 (51.1%) patients, 15 of them (33.3%) had high titers. Almost always, 2 or more types of viruses are found in patients with viral infection. The presence of hormonal receptors was also studied in patients with uterine cancer using an immunohistochemical method. Taking into account the high prognostic role, the receptors were identified, the presence of estrogen and progesterone receptors and HER-2 neu was determined. Our goal was not to study the prognostic role of IHC data, so we did not study the proliferative activity of the tumor and other factors. In 24.5% of patients, the average or high level of estrogen receptors, progesterone in 60% of patients, HER-2 neu was detected in 13.4% of patients, which was the basis for the use of antiestrogens, progestins and trastuzumab.

The most common condition in patients with endometrial cancer is obesity, which affects more than 75% of patients; the remaining patients are patients with a tendency to obesity, which is a link in the chain of metabolic syndrome observed in patients with uterine corpus. Although diabetes was observed in only 11.1% of patients, 23 (51.1%) patients had elevated blood glucose, which was evaluated as prediabetes and prescribed a special diet low in easily digestible carbohydrates. Also, many patients with uterine cancer are diagnosed with OSOK, chronic hepatitis and hepatosis. All patients with ovarian cancer underwent radical surgery. According to intraoperative data, 7 (11.1%) patients received postoperative radiation and all patients received 6 courses of polychemotherapy. The composition of microorganisms in the distal part of the upper genitals and fallopian tubes was studied (intraoperatively). The prevalence of *Gemmata obscuriglobus*, *Halobacteroides halobios* chlamydia, HPV, etc. was higher in ovarian cancer patients than in endometrial cancer patients. The following types of bacteria increase in ovarian cancer: *Proteobacterii*, *Acinetobacter*, *Sphingomonas*, *Methylobacterium* spp., *Vodnye vidy*, planktomycety, *Gemmata obscuriglobus*, *Halobacteroides halobius* i *Methyloprofundus sedimenti*, etc. High titers of these microorganisms can be an indirect sign of the presence and/or activity (aggressiveness) of ovarian cancer. We found

high titers of HPV in many patients with ovarian cancer. Diseases of the reproductive system and the hormonal level of women are closely related. Hormonal imbalance leads to functional failure of the receptor apparatus of the vulva. What can cause the development of anaplastic processes. Like other localizations of oncogynecological pathology, we studied hormonal disorders in patients with vulvar cancer, for which we determined the level and ratio of estrogen metabolites: 16 α -ONE1 and 2-ONE1, according to FIGO recommendations. For comparison, this test was conducted on 15 women from hospital staff. The mean level of 2-ONE metabolite in the group of patients with vulvar cancer was 2.38 times lower than that of the control group. At the same time, the average level of metabolite 16 α -ONE was 1.9 times higher than that of the control group. vulva. The proportions of metabolites in the groups also showed significant, statistically significant ($P < 0.01$) differences. In the control group, the value of 2-ONE / 16 α -ONE was 4 (4.49) times higher than the same coefficient for patients with vulvar cancer. Thus, it is desirable to take measures on pathogenetic therapy of vulvar cancer, which will allow significant progress in the treatment of women with vulvar cancer. With cancer of the vulva, as in other localizations of gynecological oncological pathology, many chronic diseases and conditions were observed. According to our observations, obesity was observed in almost half of patients, gastrointestinal diseases and hepatosis were observed in one third of patients, hypertension was diagnosed in every fourth patient. Three patients experienced infertility.

We conducted a prospective study of 16 patients to base an adjunctive therapy program on rectal cancer. Of the 16 patients, 9

had primary Qin cancer, 7 developed after radiation therapy for cervical cancer (5 patients), and 2 patients developed vulvar cancer after treatment. At the current stage of medical development, the vaginal biocenosis is the most important component of the body that performs protective and immunomodulating functions. To study the microbiocenosis, we conducted a microbiological study of vaginal discharge and smears. With vaginal cancer, as with vulvar cancer, there is colonization of the vagina with pathological colonies that are more characteristic of intestinal flora. Also, a large number of cases were identified as genital chlamydia and gardnerellosis. In 75% of cases, bacterial infection was accompanied by yeast fungi.

Summary

Based on our research, it can be noted that HPV plays a major role in the occurrence and development of genital cancer in women. For the prevention of malignant tumors of the vulva, vagina and cervix, a vaccination method is proposed today, but the effect on the pathogenetic mechanism of cancer in the treatment of advanced oncological processes is not provided. From the data presented in the table, it can be seen that high titers of cancer-risk strains of viruses such as HPV – 16, HPV – 18, HPV – 42 were detected in patients with vaginal cancer, which requires the search for drugs. For the pathogenetic treatment of genital cancer. The somatic condition of women with vaginal cancer did not differ from the somatic health of women with cancer in other places. Most often, patients with vaginal cancer suffer from obesity, inflammatory diseases of the urinary system (chronic pyelonephritis, cystitis) and chronic obstructive pulmonary diseases.

References

- Zhang, Q. et al. Oncologic and obstetrical outcomes with fertility-sparing treatment of cervical cancer: a systematic review and meta-analysis // *Oncotarget*. 2017.– T. 8.
- Datta, N. R., Stutz, E., Gomez, S., & Bodis, S. (2018). Efficacy and safety evaluation of the various therapeutic options in locally advanced cervix cancer: A systematic review and network meta-analysis of randomized clinical trials. *International Journal of Radiation Oncology* Biology* Physics*. Doi:10.1016/j.ijrobp.2018.09.037
- Nagy, V. M. et al. Randomized phase 3 trial comparing 2 cisplatin dose schedules in 326 patients with locally advanced squamous cell cervical carcinoma: long-term follow-up // *International Journal of Gynecologic Cancer*. 2012.– T. 22.– № 9.

- Duenas-González, A. et al. Phase III, open-label, randomized study comparing concurrent gemcitabine plus cisplatin and radiation followed by adjuvant gemcitabine and cisplatin versus concurrent cisplatin and radiation in patients with stage IIB to IVA carcinoma of the cervix // *Journal of Clinical Oncology*. 2011. – T. 29. – P. 13.
- Mabuchi, S. et al. Chemoradiotherapy followed by consolidation chemotherapy involving paclitaxel and carboplatin and in FIGO stage IIB/IVA cervical cancer patients. / *J Gynecol Oncol*. 2017. Jan; 28(1): e15. Doi: 10.3802/jgo.2017.28.e15
- Wang, S. et al. Efficacy of concurrent chemoradiotherapy plus adjuvant chemotherapy on advanced cervical cancer / *Chin J Cancer*. 2010. Nov; 29 (11): 59–63.
- Narayan, S. et al. Pros and cons of adding of neoadjuvant chemotherapy to standard concurrent chemoradiotherapy in cervical cancer: a regional cancer center experience // *The Journal of Obstetrics and Gynecology of India*. 2016. – T. 66. – № 5. – P. 385.
- Cella, D. et al. Health-related quality of life outcomes associated with four cisplatin-based doublet chemotherapy regimens for stage IVB recurrent or persistent cervical cancer: a Gynecologic Oncology Group study // *Gynecologic oncology*. 2010. – T.
- Bjurberg, M. et al. Primary treatment patterns and survival of cervical cancer in Sweden: A population-based Swedish Gynecologic Cancer Group Study // *Gynecologic oncology*. 2019. – T. 155. – № . 2. – P. 229–236.
- Sapienza, L. G. et al. Decrease in uterine perforations with ultrasound image-guided applicator insertion in intracavitary brachytherapy for cervical cancer: A systematic review and meta-analysis // *Gynecologic oncology*. 2018. – T. 151. – № . 3. – P. 573.
- Zhang, J. et al. Diagnostic significance of magnetic resonance imaging in patients with cervical cancer after brachytherapy: a meta-analysis // *Acta Radiologica*. 2019.
- Barillot, I. et al. Carcinoma of the cervical stump: a review of 213 cases // *European Journal of Cancer*. 1993. – T. 29. – № 9. – P. 1231–1236.
- Chen, X., Zou, H., Li, H., Lin, R., Su, M., Zhang, W., ... Zou, C. (2017). Weekly Versus Triweekly Cisplatin-Based Chemotherapy Concurrent With Radiotherapy in the Treatment of Cervical Cancer. *International Journal of Gynecological Cancer*, – 27(2).
- Kim, H.S. et al. Efficacy of neoadjuvant chemotherapy in patients with FIGO stage IB1 to IIA cervical cancer: an international collaborative meta-analysis // *European Journal of Surgical Oncology (EJSO)*. 2013. – T. 39. – № 2. – C. 115–124.
- Penson, R.T. et al. Patient Reported Outcomes in a Practice Changing Randomized Trial of Bevacizumab in the Treatment of Advanced Cervical Cancer: An NRG Oncology/ Gynecologic Oncology Group Study // *The Lancet. Oncology*. 2015. – T.
- Kitagawa, R. et al. A multi-institutional phase II trial of paclitaxel and carboplatin in the treatment of advanced or recurrent cervical cancer // *Gynecologic oncology*. 2012. – T. 125. – № 2. – P. 307–311.
- Tewari, K.S. et al. Bevacizumab for advanced cervical cancer: final overall survival and adverse event analysis of a randomised, controlled, open-label, phase 3 trial (Gynecologic Oncology Group 240) // *The Lancet*. 2017. – T. 390. – № 10103. – P. 1654–1663.
- Friedlander, M., Grogan M. Guidelines for the treatment of recurrent and metastatic cervical cancer // *The oncologist*. 2002. – T. 7. – № 4. – P. 342–347.
- Poorolajal, J., Jenabi E. The association between BMI and cervical cancer risk: a metaanalysis // *European Journal of Cancer Prevention*. 2016. – T. 25. – № 3. – P. 232–238.

submitted 22.08.2023;

accepted for publication 20.09.2023;

published 8.10.2023

© Polatova, D. Sh., Artikhodzhaeva, G. Sh.

Contact: yuldashkhodjaevanigina@gmail.com