

УДК: 618.146-006.04-033.2-047.44(575.141)  
DOI: 10.24061/2413-4260. XIV.4.54.2024.13

ANALYSIS OF REGIONALLY METASTATIC  
CERVICAL CANCER ACCORDING TO DATA  
FROM THE SAMARKAND REGION  
OF THE REPUBLIC OF UZBEKISTAN

*M. Oripova*<sup>1</sup>, *I. Yunusov*<sup>2</sup>, *S. Davlatov*<sup>3</sup>

Samarkand State Medical University<sup>1</sup>  
(Samarkand, Uzbekistan),  
Samarkand branch of the Republican specialized scientific  
and practical medical center of oncology and radiology<sup>2</sup>  
(Samarkand, Uzbekistan),  
Bukhara State Medical Institute named after Abu Ali ibn Sino<sup>3</sup>  
(Bukhara, Uzbekistan)

### Summary

*Today, cervical cancer is the most important global medical and social problem.*

**Purpose of the study.** *To study the incidence of cervical cancer and analyze the results of treatment of stage III-IV disease in the Samarkand region.*

**Material and methods.** *The study was conducted on the basis of the Samarkand branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology of the Republic of Uzbekistan. The collection of research data included analysis of outpatient cards and anamnesis of patients admitted with the diagnosis of regionally metastasized forms of cervical cancer, data of patients with malignant neoplasms and advanced cases of malignant neoplasms – an accounting and reporting form. Interpretation work was carried out by age categories. At the same time, data from histologic and cytologic reports in the control group of cervical cancer stages III-IV, treated between 2020 and 2022, were used and processed.*

**Results of the study.** *The reason for the first visit to the gynecologist at the time of diagnosis is mainly pain in the lower abdomen and lower back, bloody discharge from the genital tract on non-menstrual days and after contact, which are signs of advanced disease. The obstetric history revealed that 56 (53.3 %) women did not consult a gynecologist at all after their last childbirth, and all patients had one to five medical abortions. Thirty-eight (36.2 %) patients of early reproductive age were registered with an endocrinologist with a diagnosis of diffuse goiter. In 46 % of the patients the menarche occurred at the age of 12-13 years, in 50 % of the patients at the age of 14-16 years, and in 4 % at the age of 18-19 years.*

**Conclusion.** *The main goal of modern radiotherapy for cervical cancer today is radiation therapy without complications, elimination of relapse, and prolongation of survival. Our research continues in this direction.*

**Key words:** *Cervical Cancer; Advanced Tumor Proces; Timely Diagnosis; Treatment; Prognosis.*

### Introduction

Today, cervical cancer is the most important global medical and social problem [1, 2, 3]. According to the statistics of the International Agency for Research on Cancer, 604,127 new cases of cervical cancer will be identified in 2020, and the annual incidence in different countries varies from 4.1 to 40.1 per 100,000 population [4, 5]. According to the Samarkand branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology of the Republic of Uzbekistan, the incidence of cervical cancer in 2022 was 0.4 % (134 patients were initially registered). The mortality rate of cervical cancer remains high, ranking third among malignant tumors and, according to the latest WHO data, 8.2 per 100,000 population [6, 7, 8].

According to a number of studies, despite the improvement of modern screening programs and clinical and laboratory diagnostic measures for cervical cancer, diagnostic rates for advanced stages remain unchanged [9, 10, 11]. Despite the discovery of modern treatment methods, the percentage of relapse and mortality from cervical cancer remains unchanged [12, 13]. Despite the diagnostic and treatment measures, according to statistical data, mortality rates from cervical cancer remain high. Unfortunately, the five-year survival rate for regionally metastatic cervical cancer does not exceed 15 % [14, 15]. After complex treatment with subsequent relapse of the

tumor in this category of patients also does not exceed 15 % [16, 17].

Despite the ongoing visual methods for early diagnosis of cervical cancer, in 39.8 % of patients the disease is detected in advanced stages (III-IV) [18, 19, 20, 21].

**Purpose of the study.** *To study the incidence of cervical cancer and analyze the results of treatment of stage III-IV disease in the Samarkand region.*

**Material and methods.** *The study was conducted on the basis of the Samarkand branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology of the Republic of Uzbekistan. The collection of research data included analysis of outpatient cards and anamnesis of patients admitted with the diagnosis of regionally metastasized forms of cervical cancer, data of patients with malignant neoplasms (form No. 030) and advanced cases of malignant neoplasms – an accounting and reporting form (form No. 027/2). The interpretation was carried out by age groups. At the same time, data from histologic and cytologic reports in the control group of cervical cancer stages III-IV treated between 2020 and 2022 were used and processed. All cervical cancer patients from these years were included in the main group. A comparative analysis was performed with the results of a 2015 study of cervical cancer patients.*

A retrospective analysis of stage III-IV CC was conducted in 2020 to 2022 in the Samarkand region. According to statistics, in 2015, 92 cases were identified, of which 38 (41.3 %) were neglected. In 2020, 111 cases were identified, of which 38 (34.2 %) were advanced.

In 2021, cervical cancer was detected in 138 women, of which 58 (41 %) were from III-IV. In 2022, it was detected in 134 women, of which 47 (35.1 %) were advanced. In all patients, morphological verification was performed in 100 % of cases.

**Table 1**

**Distribution of patients with cervical cancer by stage**

	2015		2020		2021		2022	
Number of patients	92	100 %	111	100 %	138	100 %	134	100 %
I-II stage	54	58,7 %	73	65,76 %	80	58 %	87	64,9 %
III stage	25	32,2 %	36	32,43 %	52	37,7 %	40	29,9 %
IV stage	13	9,1 %	2	1,81 %	6	4,3 %	7	5,2 %

Morphological study of biopsy material from the cervix in regionally metastatic forms showed that squamous cell carcinoma was detected in 86 %, adenocarcinoma in 11 %, and a mixed variant in up to 1 %. The endophytic form of growth (in the cervical canal) of cervical cancer in advanced forms occurs on average in 74 % of cases, and

the exophytic form of cervical cancer in 23 % of cases, the mixed form of tumor growth is very rare and accounts for up to 3 %. Morphological verification and staging of cervical cancer during the initial treatment of the patient has indirect prognostic implications that determine the course of the disease and the future fate of the patient.

**Table 2**

**Forms of tumor growth in stages III-IV cervical cancer**

Forms of tumor growth	2020		2021		2022	
	38	100 %	58	100 %	47	100 %
Exophytic growth	9	24 %	14	24,1 %	10	21,27 %
Endophytic growth	27	71 %	42	72,4 %	35	74,46 %
Mixed tumor growth	2	5 %	2	3,5 %	2	4,25 %

According to the variants of tumor spread, patients treated in 2022 were distributed as follows: the parametric variant was noted in 48/33 (68.7 %) patients, vaginal in 48/12 (25 %); parametric – vaginal in 48/3 (6.25 %) patients.

In patients treated in 2021, the parametric variant of cervical cancer was noted in 58/26 (44.82 %) patients, vaginal in 58/28 (48.27 %); parametric – vaginal in 58/4 (6.89 %) patients.

**Results of the study.** All 105 patients with stage III and IV CC were analyzed for the reason for late detection of the disease. The reason for the first visit to

the gynecologist at the time of diagnosis is mainly pain in the lower abdomen and lower back, bloody discharge from the genital tract on non-menstrual days and after contact, which are signs of advanced disease.

The obstetric history revealed that 56 (53.3 %) women did not consult a gynecologist at all after their last childbirth, and all patients had one to five medical abortions. Thirty-eight (36.2 %) patients of early reproductive age were registered with an endocrinologist with a diagnosis of diffuse goiter. In 46 % of the patients the menarche occurred at the age of 12-13 years, in 50 % of the patients at the age of 14-16 years, and in 4 % at the age of 18-19 years.

**Table 3.**

**Obstetric anamnesis of patients with stage III-IV cervical cancer (2022).**

Indicators		Number of patients n=48		Of the total number of patients %	
		Abs		M (%)	M
Pregnancy number	0	2		5,00	3,45
	1-3	16		40,00	7,75
	4	10		25,00	6,85
	>4	12		30,00	7,25
Number of births	0	2		5,00	3,45
	1	6		15,00	5,65
	2	11		27,50	7,06
	3	8		20,00	6,32
	>3	13		32,50	7,41
Number of abortions	0	10		25,00	6,85
	1-3	14		35,00	7,54
	4-5	16		40,00	7,75



The reason for the neglect of the disease in more than 50 % of cases is the late visit of the patients to the gynecologist, the main percentage of which is due to the socially active part of the female population.

After complex diagnostic procedures, all patients received combined radiotherapy in the first stage. In 92/12 patients with cervical cancer initially diagnosed in stage III, unilateral or bilateral ureteral hydronephrosis was diagnosed, percutaneous uretero-cutaneostomy was performed, and polychemotherapy was used for symptomatic treatment.

In 92/80 patients combined adjuvant radiotherapy was performed – remote gamma therapy SFD = 2 Gy, TFD = 50 Gy against the background of weekly administration of cisplatin 40 mg/m<sup>2</sup> and brachytherapy SFD = 5 Gy, TFD = 35 Gy. The reason for the neglect of the disease in more than 50 % of cases is the late visit of the patients to the gynecologist, the main percentage of which is due to the socially active part of the female population.

After complex diagnostic procedures, all patients received combined radiotherapy in the first stage. In 92/12 patients with cervical cancer initially diagnosed in

stage III, unilateral or bilateral ureteral hydronephrosis was diagnosed, percutaneous uretero-cutaneostomy was performed, and polychemotherapy was used for symptomatic treatment.

In 92/80 patients combined adjuvant radiotherapy was performed – remote gamma therapy SFD = 2 Gy, TFD = 50 Gy against the background of weekly administration of cisplatin 40 mg/m<sup>2</sup> and brachytherapy SFD = 5 Gy, TFD = 35 Gy.

The Cox model was used to evaluate the effectiveness of treatment outcomes and prognosis of radiotherapy.

After treatment, in 48 patients who received treatment without interruption, the recurrence period was 34+3 months, in patients who received radiotherapy with interruption during radiotherapy due to complications of extragenital pathology, the recurrence period was 18+5 months. In 10 % of the patients, continued tumor growth was observed after radiotherapy. Patients also received polychemotherapy.

From stage IV, 92/13 patients received immunotherapy with symptomatic therapy. One-year mortality was 9 (9.7 %).



image before external beam radiation therapy

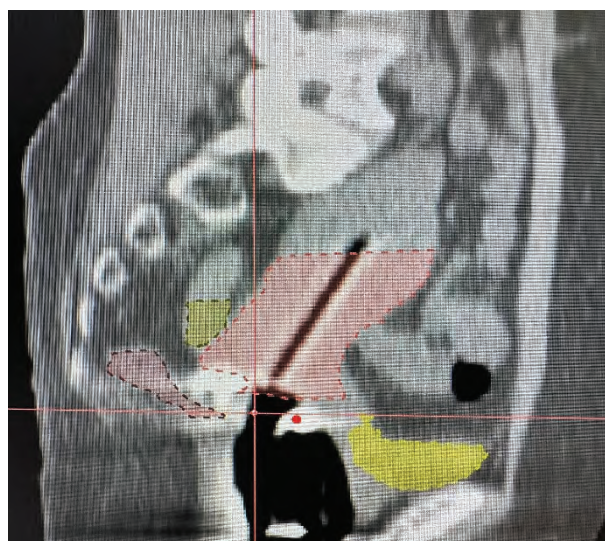


image after radiation therapy

**Figure 1. Patient E. G. Born in 1979, diagnosed with cervical cancer. II b stage. T2bNxM0. Image before external beam radiation therapy image after radiation therapy**



Image before external beam radiation therapy

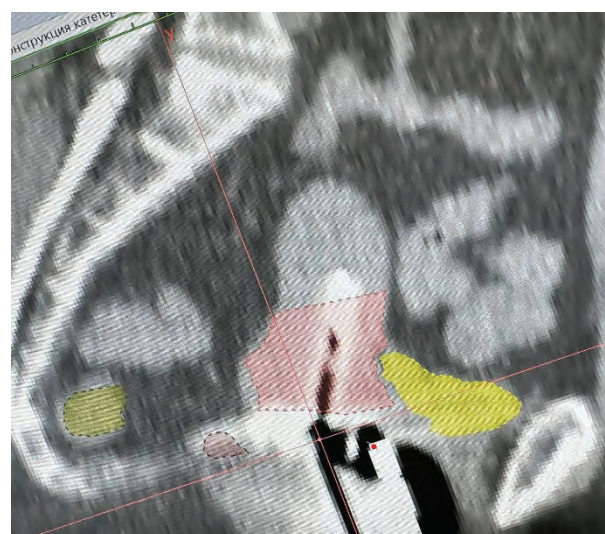


image after radiation therapy.

**Figure 1. Patient U. C. Born in 1974, diagnosed with cervical cancer. III a stage. T3aNxM0.**



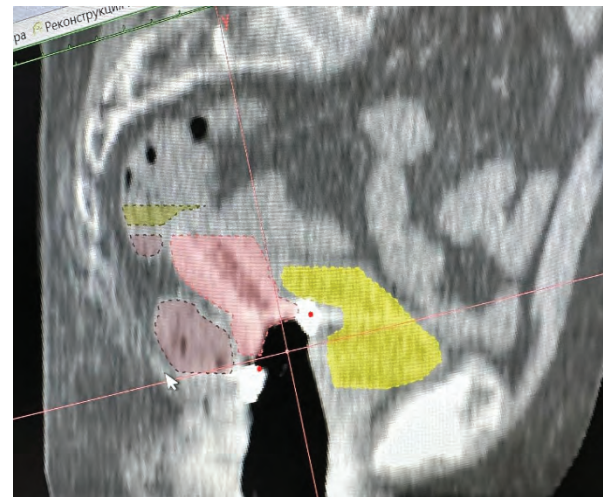
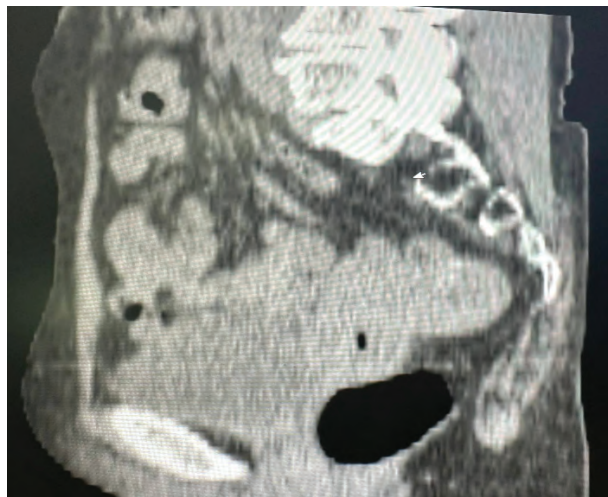


Image before external beam radiation therapy.

Image after radiation therapy.

Figure 3. Patient Kh.T., born in 1961, was diagnosed with cervical cancer. IV a stage. T4aNxM0.

**Conclusions.** Despite the implementation of annual screening programs, the percentage of cervical cancer incidence and diagnosis of advanced cases remains unchanged. To date, the introduction of new diagnostic techniques into clinical practice does not affect the incidence

and mortality rates of cervical cancer, which remain extremely high. The main goal of modern radiotherapy for cervical cancer is to achieve radiotherapy without complications, elimination of recurrence and prolongation of survival. Our research continues in this direction.

#### References:

1. Arbyn M, Gultekin M, Morice P, Nieminen P, Cruickshank M, Poortmans P, Kelly D, Poljak M, Bergeron C, Ritchie D, Schmidt D. The European response to the WHO call to eliminate cervical cancer as a public health problem. *Int J Cancer*. 2021;148(2):277-84. DOI: <https://doi.org/10.1002/ijc.33189>
2. Wilailak S, Kengsakul M, Kehoe S. Worldwide initiatives to eliminate cervical cancer. *Int J Gynaecol Obstet*. 2021;155(S1):102-6. DOI: <https://doi.org/10.1002/ijgo.13879>
3. Momenimovahed Z, Salehiniya H. Incidence, mortality and risk factors of cervical cancer in the world. *Biomedical Research and Therapy*. 2017;4(12):1795-811. DOI: <https://doi.org/10.15419/bmrat.v4i12.386>
4. Kakotkin VV, Semina EV, Zadorkina TG, Agapov MA. Prevention strategies and early diagnosis of cervical cancer: current state and prospects. *Diagnostics*. 2023;13(4):610. DOI: <https://doi.org/10.3390/diagnostics13040610>
5. Poondla N, Madduru D, Duppala SK, Velpula S, Nunia V, Kharb S, et al. Cervical cancer in the era of precision medicine: A perspective from developing countries. *Advances in Cancer Biology-Metastasis*. 2021;3:100015. DOI: <https://doi.org/10.1016/j.adcanc.2021.100015>
6. Oripova M, Djurayev M, O'Rozov N. Analysis of locally advanced cervical cancer according to the Samarkand region of the republic of Uzbekistan. *Science and innovation*. 2023;2(2):173-6. DOI: <https://doi.org/10.5281/zenodo.7671132>
7. Sharipova IP, Musabaev EI, Sadirova SS, Suyarkulova DT, Tashev SE, Akhmedova SK, et al. Prevalence of high-risk human papillomavirus genotypes among women in Uzbekistan, 2021-2023. *J Gynecol Oncol [Internet]*. 2024 [update 2024 Jun 24];36: e7. Available from: <https://ejgo.org/DOIx.php?id=10.3802/jgo.2025.36.e7> DOI: <https://doi.org/10.3802/jgo.2025.36.e7>
8. Rim CH, Lee WJ, Musaev B, Volichevich TY, Pazlitdinovich ZY, Lee HY, et al. Comparison of breast cancer and cervical cancer in Uzbekistan and Korea: the first report of the Uzbekistan–Korea Oncology Consortium. *Medicina*. 2022;58(10):1428. DOI: <https://doi.org/10.3390/medicina58101428>
9. Perkins RB, Wentzensen N, Guido RS, Schiffman M. Cervical cancer screening: a review. *Jama*. 2023;330(6):547-58. DOI: <https://doi.org/10.1001/jama.2023.13174>
10. Guzel C, van Sten-van't Hoff J, de Kok IM, Govorukhina NI, Boychenko A, Luider TM, Bischoff R. Molecular markers for cervical cancer screening. *Expert Rev Proteomics*. 2021;18(8):675-91. DOI: <https://doi.org/10.1080/14789450.2021.1980387>
11. Teixeira JC, Vale DB, Campos CS, Bragança JF, Discacciati MG, Zeferino LC. Organization of cervical cancer screening with DNA–HPV testing impact on early–stage cancer detection: a population–based demonstration study in a Brazilian city. *Lancet Reg Health Am*. 2022;5:100084. DOI: <https://doi.org/10.1016/j.lana.2021.100084>
12. Gennigens C, De Cuyper M, Hermesse J, Kridelka F, Jerusalem G. Optimal treatment in locally advanced cervical cancer. *Expert Review of Anticancer Therapy*. 2021;21(6):657-71. DOI: <https://doi.org/10.1080/14737140.2021.1879646>
13. Zhou Y, Rassy E, Coutte A, Achkar S, Espenel S, Genestie C, et al. Current standards in the management of early and locally advanced cervical cancer: update on the benefit of neoadjuvant/adjuvant strategies. *Cancers*. 2022;14(10):2449. DOI: <https://doi.org/10.3390/cancers14102449>
14. Gennigens C, De Cuyper M, Hermesse J, Kridelka F, Jerusalem G. Optimal treatment in locally advanced cervical cancer. *Expert Rev Anticancer Ther*. 2021;21(6):657-71. DOI: <https://doi.org/10.1080/14737140.2021.1879646>
15. Lichter KE, Levinson K, Hammer A, Lippitt MH, Rositch AF. Understanding cervical cancer after the age of routine screening: characteristics of cases, treatment, and survival in the United States. *Gynecol Oncol*. 2022;165(1):67-74. DOI: <https://doi.org/10.1016/j.gyno.2022.01.017>
16. Waks AG, Winer EP. Breast cancer treatment: a review. *Jama*. 2019;321(3):288-300. DOI: <https://doi.org/10.1001/jama.2018.19323>
17. Radzishavska YeB, Sukhina OM, Vasylyev LYa, Sukhin VS, Nemaltsova KV, Kulinich HV, et al. Treatment strategy and clinical characteristics of patients with cervical cancer as prognostic parameters of survival. *Ukrainian journal of radiology and oncology*. 2022;30(3):65-78. DOI: <https://doi.org/10.46879/ukroj.3.2022.65-78>

18. Sangwa-Lugoma G, Mahmud S, Nasr SH, Liaras J, Kayembe PK, Tozin RR, et al. Visual inspection as a cervical cancer screening method in a primary health care setting in Africa. *Int J Cancer*. 2006;119(6):1389-95. DOI: <https://doi.org/10.1002/ijc.21972>
19. Lawal IO, Ololade K, Popoola GO, Ankrah AO, Vorster M, Maes A, Mokgoro NP, Van de Wiele C, Sathekge MM. 18F-FDG-PET/CT imaging of uterine cervical cancer recurrence in women with and without HIV infection. *Q J Nucl Med Mol Imaging*. 2022;66(1):52-60. DOI: <https://doi.org/10.23736/S1824-4785.19.03156-X>
20. Eilu E, Akinola SA, Tibyangye J, Adeyemo RO, Odoki M, Adamu AA, Onkoba SK, Kemunto MJ, Abyola IA, Kato CD. Assessment of alternative approaches of primary cervical cancer screening among women in low-income environments. *J Cancer Research Exper Oncol*. 2021;13(1):1-9. DOI: <http://dx.doi.org/10.5897/JCREO2020.0168>
21. Ryzhov A, Corbex M, Pineros M, Barchuk A, Andreasyan D, Djanklich S, et al. Comparison of breast cancer and cervical cancer stage distributions in ten newly independent states of the former Soviet Union: a population-based study. *The Lancet Oncology*. 2021;22(3):361-9. DOI: [https://doi.org/10.1016/s1470-2045\(20\)30674-4](https://doi.org/10.1016/s1470-2045(20)30674-4)

## АНАЛІЗ РЕГІОНАЛЬНО-МЕТАСТАТИЧНОГО РАКУ ШИЙКИ МАТКИ ЗА ДАНИМИ САМАРКАНДСЬКОЇ ОБЛАСТІ РЕСПУБЛІКИ УЗБЕКИСТАН

*М. Оріпова<sup>1</sup>, І. Юнусов<sup>2</sup>, С. Давлатов<sup>3</sup>*

Самаркандський державний медичний університет<sup>1</sup>

(Самарканд, Узбекистан),

Самаркандська філія Республіканського спеціалізованого науково-практичного медичного центру онкології та радіології<sup>2</sup>

(Самарканд, Узбекистан),

Бухарський державний медичний інститут імені Абу Алі ібн Сіно<sup>3</sup>

(Бухара, Узбекистан)

### Резюме.

На сьогоднішній день рак шийки матки є найважливішою глобальною медико-соціальною проблемою.

**Мета дослідження.** Вивчити захворюваність на рак шийки матки та проаналізувати результати лікування III-IV стадії захворювання в Самаркандській області.

**Матеріал і методи.** Дослідження проведено на базі Самаркандської філії Республіканського спеціалізованого науково-практичного медичного центру онкології та радіології Республіки Узбекистан. Збір даних дослідження включав аналіз амбулаторних карт та анамнезу пацієнок, які надійшли з діагнозом регіонарно-метастазуючих форм РШМ, даних хворих зі злоякісними новоутвореннями та занедбаними випадками злоякісних новоутворень – обліково-звітної форми. Інтерпретаційна робота проводилася за віковими категоріями. Паралельно використовувалися та оброблялися дані гістологічних та цитологічних звітів у контрольній групі хворих на рак шийки матки III-IV стадій, пролікованих у період з 2020 по 2022 роки.

**Результати дослідження.** Причиною першого звернення до гінеколога на момент встановлення діагнозу переважно є біль внизу живота та попереку, кров'янисті виділення зі статевих шляхів у неменструальні дні та після контакту, які є ознаками запущеного захворювання. Акушерський анамнез показав, що 56 (53,3 %) жінок взагалі не зверталися до гінеколога після останніх пологів, і всі пацієнтки мали від одного до п'яти медикаментозних абортів. Тридцять вісім (36,2 %) пацієнок раннього репродуктивного віку перебували на обліку в ендокринолога з діагнозом дифузний зоб. У 46 % пацієнок менархе настало у віці 12-13 років, у 50 % – у віці 14-16 років, у 4 % – у віці 18-19 років.

**Висновок.** Основною метою сучасної променевої терапії раку шийки матки на сьогоднішній день є проведення променевої терапії без ускладнень, виключення рецидиву та подовження виживаності. Наші дослідження продовжуються в цьому напрямку.

**Ключові слова:** рак шийки матки; поширені пухлинні процеси; своєчасна діагностика; лікування; прогноз.

### Contact information:

**Mehriniso Oripova** – Assistant, Department of Oncology, Samarkand State Medical University (Samarkand, Uzbekistan).

**e-mail:** mehriniso1181@gmail.com

**ORCID ID:** <https://orcid.org/0009-0009-9052-6754>

**Islom Yunusov** – radiation oncologist in the Samarkand branch of the Republican specialized scientific and practical medical center of oncology and radiology (Samarkand, Uzbekistan).

**e-mail:** doctor.mp\_islom@mail.ru

**ORCID ID:** <https://orcid.org/0009-0002-3301-855X>

**Salim Davlatov** – associate Professor of the Department of Faculty and Hospital Surgery. Bukhara State Medical Institute named after Abu Ali ibn Sino (Bukhara, Uzbekistan).

**e-mail:** pro.ilmiy@bsmi.uz

**ORCID ID:** <https://orcid.org/0000-0002-3268-7156>

**Scopus Author ID:** <https://www.scopus.com/authid/detail.uri?authorId=57219956374>

### Контактна інформація:

**Оріпова Мехрінісо Рахмонівна** – асистент кафедри онкології Самаркандського державного медичного університету (м. Самарканд, Узбекистан).

**e-mail:** mehriniso1181@gmail.com

**ORCID ID:** <https://orcid.org/0009-0009-9052-6754>

**Юнусов Іслом Асатуллаєвич** – лікар-радіолог-онколог Самаркандської філії Республіканського спеціалізованого науково-практичного медичного центру онкології та радіології (м. Самарканд, Узбекистан).

**e-mail:** doctor.mp\_islom@mail.ru

**ORCID ID:** <https://orcid.org/0009-0002-3301-855X>

**Давлатов Салім Сулаймонович** – доцент кафедри факультетської та госпітальної хірургії Бухарського державного медичного інституту імені Абу Алі ібн Сіно (м. Бухара, Узбекистан).

**e-mail:** pro.ilmiy@bsmi.uz

**ORCID ID:** <https://orcid.org/0000-0002-3268-7156>

**Scopus Author ID:** <https://www.scopus.com/authid/detail.uri?authorId=57219956374>

