Pathomorphological Characteristics of Uterine Mesenchymal Tumors

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Abstract The materials of 136 patients who were treated with a diagnosis of mesenchymal tumors of the uterus in the Khorezm branch of the Oncology Scientific and Practical Center of the Republic of Uzbekistan were analyzed; the material was analyzed by age and by region. The results showed that the largest number of patients with low-differentiation tumors were observed in patients of the city of Urgench - 24%, and in other areas the frequency is 9%. By age groups, the majority of patients were observed among 50-64-year-olds. The number of observed patients did not depend on the number of people living in the regions.

Keywords Women, Oncological disease, Tumor, Metastases, Treatment tactics, Polyetiological characteristics, Climatic conditions, Uterine mesenchymal tumors, Regions, Population, Age

1. Introduction

One of the most urgent problems of modern medicine is oncological problems that are common among women. Timely detection of oncological diseases is considered the most optimal solution in their treatment, because detection of tumors in the early stages prevents the spread of metastases, and if the treatment tactics are carried out correctly, it ensures the complete treatment of patients.

Modern literature contains information confirming that this disease has a polyetiological nature and depends on climatic conditions and the lifestyle of the population in many aspects. A high risk of low-grade tumors, high tendency of metastasization was detected [1,2]. In most patients, low-quality tumors are diagnosed late, because women do not consult a doctor in time. The main complaints are bleeding and pain syndrome.

Undoubtedly, one of the causes of this disease is inflammation, hormonal changes [3,4]. From this point of view, the ecologically unfavorable island region is a factor in the development of uterine cancer among the population of Khorezm region, lifestyle and non-observance of personal hygiene rules, and weakening of the immune system due to anemia, because the flora of the uterus It is one of the indisputable facts that change and injury affect the body.

Purpose of the scientific work is to study the pathomorphological characteristics of uterine mesenchymal tumors, to develop recommendations for its diagnosis, classification and optimization of the choice of treatment strategy.

2. Materials and Testing Methods

As material, ambulatory cards, medical histories, results of clinical examinations of patients, as well as results of examination of macropreparations taken during operations and micropreparations prepared from them were obtained at the Khorezm Branch of the Republican Scientific and Practical Center of Oncology in 2010-2023.

3. The Obtained Results and Their Discussion

In Khorezm region, 136 patients were treated for uterine mesenchymal tumors in the dispensary during 2010-2023. 102 of them are of good quality (75%) and 34 of them are of poor quality (25%). Of these, 8 people (24%) were diagnosed with malignant tumors in Urgench city and district, 9 people (27%) in Khanka district, and 5% in the remaining districts. Of the positive tumors, 34 people (33%) were diagnosed in Urgench city, 29 people (28%) in the district, 12 people (11%) in Khozarasp district, and 11 people (10%) in Kushkupir district.

When these are divided into age groups, good-quality tumors are observed in only one case in the age group of 18-44 years, 22 patients (21%), in the age group of 45-59 years, a total of 65 patients are observed (63%), and in this group, the incidence is more observed among women, and in the 60-74 age group, the number of patients was 15 (14%), morbidity slightly decreased. Poor-quality tumors were

observed in 5 patients (14%) in the 18-44 age group, 12 patients in the 45-59 age group (36%), and 17 patients in the 60-74 age group (50%)) organized, table 1.

Table 1. Distribution of tumor types by age group. n= 136

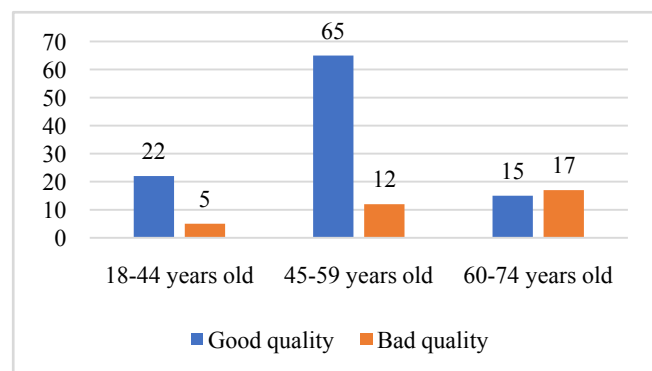| Tumor type	18-44 years old		45-59 years old		60-74 years old	
Good quality	22	21%	65	63.7%	15	14.%
Bad quality	5	14%	12	36%	17	50%

Figure 1. Diagram of the distribution of tumor types by age group

The prevalence of the disease among the middle-aged and aging population can be explained by the large number of proliferative processes associated with many chronic diseases and hormonal changes among people in this category [2,5].

The analysis of occurrence of mesenchymal tumors in the regions of Khorezm region showed that the cases of occurrence of the disease occurred in cases that did not depend on the number of the population, for example, the bad-quality cases, which are less than the population, were 3 cases (9%) in the Yangiariq district, 3 cases (9%) in the Gurlan district.

In comparison, the occurrence of the disease was observed more than 4 times. The highest incidence of the disease is 8 cases in the population of Urganch city -24.%, and 9 cases in the population of Khanka district - 27%, on the contrary, 10 cases were more observed in women, 3 cases in Yangariq district (12.6%), in Khiva district 3 cases (9%), from 2 cases in Bogot and Yangibozor districts to 3 cases in Tuproqkala and Gurlan districts. The incidence in both areas with high rates can be attributed to the fact that they contain more industrial complexes than other areas.

Table 2. Analysis of the occurrence of mesenchymal tumors in the regions of Khorezm region

Territories	In absolute number	In percentages
Urganch city	8	24%
Khazorasp district	3	9%
Bogot district	2	6%
Khanka district	9	27%
Yangariq district	3	9%
Khiva district	3	9%
Koshkopir district	2	6%
Gurlan district	3	9%
Total	**33**	**100%**

In Khorezm region, the incidence of common tumor diseases was analyzed and the following indicators were obtained (Table-2).

In 2023, 1438 primary patients with malignant tumors were considered in the region, and the incidence rate was 72.5 per 100,000 population (in 2022, it was 71.7). The total share was equal to 45.1% in 2022 and 43.1% in 2023.

Among the histological forms of uterine mesenchymal tumors identified as a result of pathomorphological examinations, the most common was uterine corpus sarcoma, which was observed in 14 cases out of 34 patients and accounted for 41%, uterine corpus fibrosarcoma in 13 cases (38%), and leiomyosarcoma in 7 cases (20%). This shows that leiomyosarcoma is much less common than other malignant tumors (table 4).
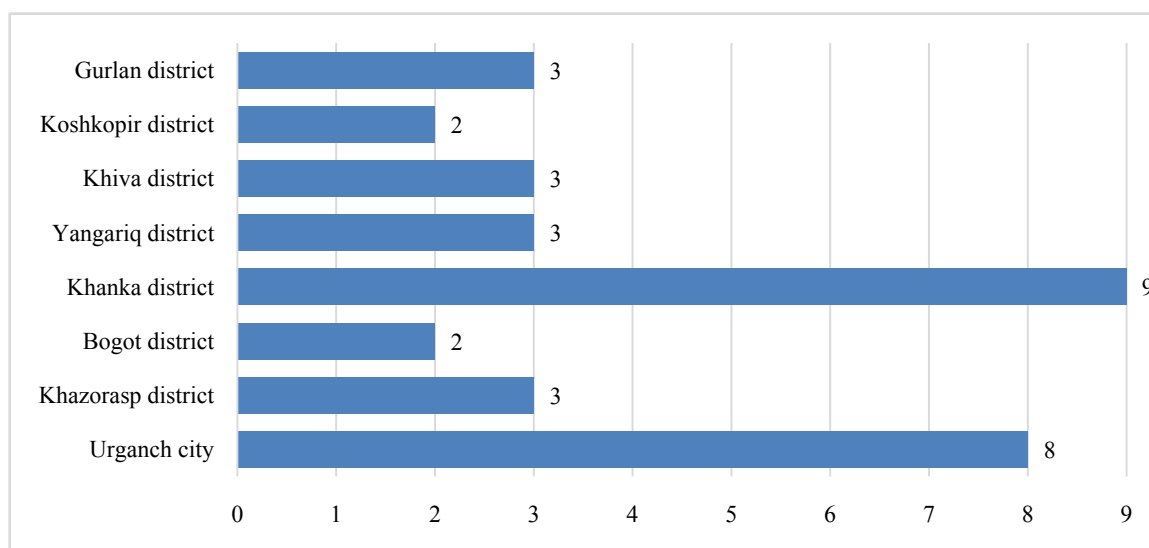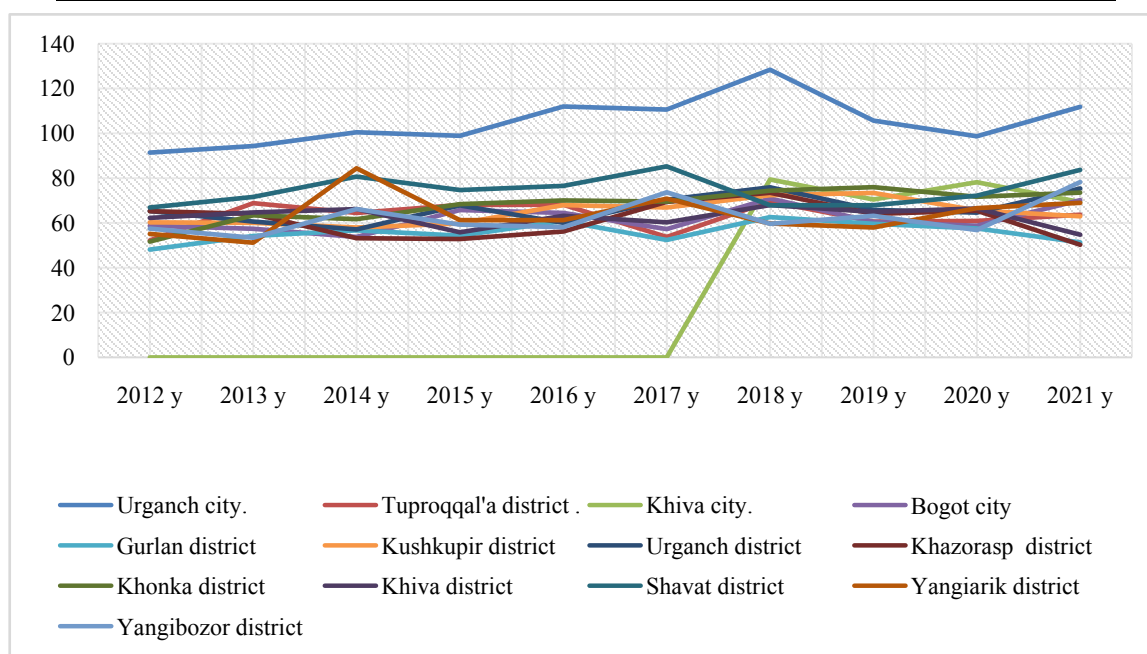

Figure 2. Diagrammatic analysis of the occurrence of mesenchymal tumors in the regions of Khorezm region

Table 3.   The general incidence rate is per 100,000 population

Districts and cities	The general incidence rate is per 100,000 population.									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Urganch city.	91.4	94.3	100.5	98.9	112.0	110.6	128.4	105.7	98.7	111.8
Tuproqqal'a district.	52.2	68.8	64.5	68	68.1	53.8	69.6	60.6	60.9	63.7
Khiva city.	0	0	0	0	0	0	79.4	70.5	78.2	69.3
Bogot city	58.8	57.4	53.8	65.8	64.5	57.3	70.9	60.5	58.8	70.2
Gurlan district	48.1	54.2	56.7	54.3	60.8	52.4	62.6	59.6	57.5	51.3
Kushkupir district	60.3	60.1	58	59.8	68.0	66.9	72.4	73.4	65.6	63.0
Urganch district	65.3	60.6	57.1	67.8	60.0	70.4	75.9	65.8	64.6	75.4
Khazorasp district	65.3	64.1	53.2	52.9	56.2	69.4	73.5	64.1	65.5	50.3
Khonka district	51.7	63.4	61.7	68.4	70.1	69.6	74.4	76.0	71.7	73.6
Khiva district	62.3	64.7	66.2	55.9	63.2	60.3	68.0	64.9	66.5	54.8
Shavat district	66.9	71.6	80.7	74.7	76.6	85.3	67.9	67.9	72.2	83.7
Yangiarik district	55.1	51.2	84.4	61.3	61.3	70.8	59.8	58.0	66.6	69.0
Yangibozor district	57.5	53.4	66.2	59.3	58.1	73.7	59.6	63.2	56.8	78.3
By region	**62.1**	**64.3**	**66.0**	**66.5**	**68.1**	**70.2**	**74.6**	**69.1**	**68.2**	**70.2**

Figure 3.   The general incidence rate is per 100,000 population

Uterine mesenchymal tumors when the cases of metastasis were analyzed, it was observed that the metastasis of uterine body fibrosarcoma is mainly related to tumor differentiation and myometrial invasion. If highly differentiated endometrioid tumors are superficially invasive, lymphogenous and implantation metastases rarely occur. In highly differentiated tumors without myometrial invasion, lymphogenous metastases are estimated to be <5%. In medium- and low-differentiated sarcomas, in cases with less than 50% invasion of the myometrium, 5-10% of cases metastasize to the pelvic lymph nodes, and 4% of cases to the para-aortic lymph nodes.

Among those identified, malignant tumors accounted for 34 cases, of which 10 (29%) had invasion into the myometrium, and 0.3% had invasion into other organs.

Table 4.   Types of uterine mesenchymal tumors

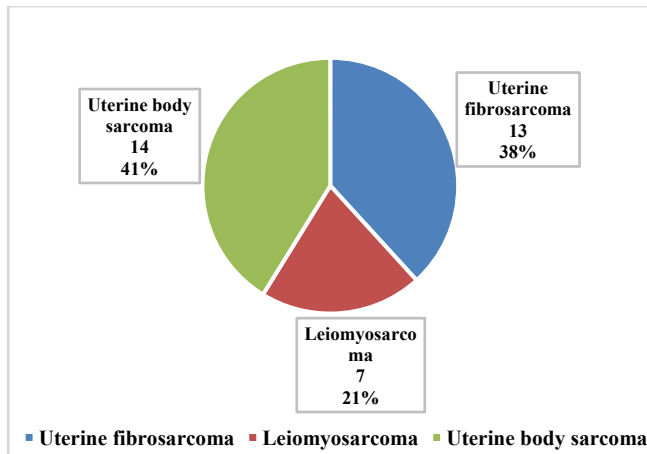| Histological types	Number	percent %
Uterine fibrosarcoma	13	38%
Leiomyosarcoma	7	20%
Uterine body sarcoma	14	41%
Total	34	100%

Figure 4. Types of uterine mesenchymal tumors in the diagram

Table 5. Metastasis rates of poor-quality tumors

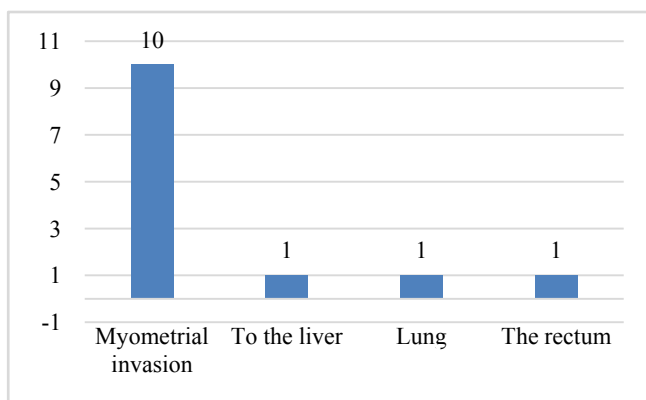| No	Metastasis	%	the number
1.	Myometrial invasion	29%	10
2.	To the liver	0.3%	1
3.	Lung	0.3%	1
4.	The rectum	0.3%	1

Figure 5. Metastasis rates of Bad - quality tumors on a diagram

4. Conclusions

It can be said that uterine mesenchymal tumors are not only related to the population size in the region, but also to factors such as the customs of the population, the environment (carcinogenesis effect), personal hygiene of patients and hormonal changes, as well as the harmful waste emitted into the environment by industrial enterprises in the regions, which also have significant social significance. In uterine fibrosarcomas, invasion of the myometrium is more common, sarcomas develop more often from histological forms of the disease, if the disease is not detected in a timely manner, metastases occur in a short time and the complications associated with them develop, which lead to a worsening of the patients' lifestyle, prolongation of the treatment process of patients, shortening of life expectancy, and acceleration of mortality.

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