



ANALYSIS OF THE INFLUENCE OF VESSEL DENSITY ON THE COMPOSITION, LOCALIZATION AND PERCENTAGE OF DAMAGED VESSELS IN THE TISSUE OF MALIGNANT TUMORS IN BREAST CANCER IN MEN.

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Abstract:

Recently, special attention has been paid to the study of vascular density and its significance during the course of the disease in patients with BC. It was found that with the development of metastases, the density of blood vessels in the future was twice as high as compared with clinically positive processes. Their high relative level was noted in aggressive malignant tumors in patients with breast cancer.

Keywords: Breast cancer (BC), vascular density, metastasis

PURPOSE OF THE STUDY: To study the effect of vascular density on the composition, localization and proportion of damaged vessels in the tissue of malignant tumors in male breast cancer.

MATERIALS AND METHODS:

We studied 76 case histories of men who were under treatment and dispensary observation for breast cancer in the Republican Specialized Oncological and Radiological Scientific and Practical Medical Center, the Tashkent City Oncological Dispensary and regional oncological dispensaries of the Republic of Uzbekistan. Studying the number of vessels in 76 cases of breast cancer, it was found that with the development of metastases, the density of vessels in the future was twice as high as compared with clinically positive processes. Their high relative level was noted in aggressive malignant tumors. The relative weight

(index) of BC microvessels is the number of microvessels in the field of view with an area of 0.72 mm². There is no perfect marker for detecting strokes. Tissues with sclerosis, necrosis, and normal structure were not included in the study, and the area of the malignant tumor containing the largest number of vessels was selected for analysis. These sites can be located in the pit, but most often it is found in the peripheral parts of the malignant tumor. Any group or chain of positively stained cells that did not belong to a malignant tumor and stroma was considered by us as a microvessel. The result was considered the highest density of microvessels after 200 examinations with a microscope field size of -0.74 mm², an increase in the eyepiece field of view of 20x10. Microvessels 101 and higher in aggressive types of BC determined the index in clinically positive malignant tumors - an average of 45 cases ($r=0.003$).

Table 1

Density of the peritumoral stroma and microvessels of a malignant tumor

Characteristic	Vascular density in a malignant tumor		Density of blood vessels in the stroma	
	M+o	P	M+o	P

<50	Age 11,0±3,5	0,43	11,0±3,5	0,42
>50 T1	10,0 ±2,9	0,97	10,3±3,5	0,97
	T stage 10,3±3,5		10,1±2,7	
	N stage			
pM	10,6 ±3,1	0,25	9,7 ±2,9	0,19
pM-1	9,2 ±2,4		9,1 ±4,9	
pM-3	9,3 ±2,8		8,9 ±3,8	
	Number of metastatic RLU			
0	10,6 ±3,1	P ¹⁻² =0,07* P ¹⁻²		P ¹⁻² =0,02* P ¹⁻³ =0,82
1-3	9,2 ±3,1			
	Level of risk			
01	9,8±2,9	0,12	8,1±2,2	0,42
02	9,9±3,0		9,6±3,9	
0,3	11,2±3,2		9,3±2,8	
	The presence of dangerous tumor emboli in the vessels			
No.	9,5±2,7	0,40	9,1±3,4	0,47
There is.	10,6±3,2		9,5±3,7	

Note: significance level for p-median test; p* - Mann-Whitney significance level

As a result of the study in the surrounding tissues and cancer stroma at a magnification of 200 times, the following indicators were found for the general characteristics of cancer: the level of differentiation, cancer necrosis, lymphovascular invasion, the ratio of the stroma to the cancer parenchyma, as well as cancer infiltration by lymphocytes. Cancer infiltration was assessed in accordance with the recommendations of the International Immuno-Oncology Biomarker Working Group 2012.

1. Manifestation of LI in the cancerous stroma. The assessment was assessed by the visual analogue method (none, weakly expressed - diffuse infiltration or small-focal accumulations and clearly expressed - large-focal infiltrates).

2. The presence of soft thin fibrous unformed connective tissue of cancer in the peritumoral zone (available, absent) (table -2)

We would like to pay attention to the fact that we have found that the activity of angiogenesis in cancer has a relationship with other clinical, morphological and molecular biological factors. Thus, a high level of high

expression of MTZ TME0 in breast cancer is associated with the presence of metastases in local lymph nodes, which suggests that it is very important to take into account such features when optimizing the treatment and assessing the prognosis of the disease. The relative mass of BC microvessels (index) is an indicator of the number of microvessels in a visible area of 0.75 mm². The number of microvessels in cancer may correlate with the histological variant of the cancer and its aggressiveness. Angiogenesis is considered one of the main factors in the growth of cancer due to metastasis and the growth of dangerous formations. In this study, its score is considered as an important predictor of sensitivity to cancer treatment and disease prognosis. In BC, it was noted that the density of microvessels (PMS) and a high level of expression of vascular endothelial growth factor (VEGF) in malignant tumors are often observed during the spread of malignant tumor processes expressed by cancerous and stromal cells. in the presence of metastases in local lymph nodes.

Table 2

Algorithm for dynamic monitoring depending on the stage of the disease

Checks for dynamic tracking	Things to be done:
objective view	Questionnaire and objective examination aimed at identifying symptoms and signs (to identify relapses and distant metastases).
Pathological indicators	Identification of vascular density and biological subtypes of CBC tumors.



Laboratory tests	Biochemical blood test (urea, creatinine, LDH, alkaline phosphatase, calcium), general blood and urine test, coagulogram.	
Skeletal bone scan	Presence of clinical signs such as bone pain with elevated alkaline phosphatase levels and bone mass formations on x-ray imaging	
Brain research.	With neurological symptoms (CT and MRI).	
	Little risk.	High and medium risk.
Examination of the mammary glands and peripheral lymph nodes.	CT or MRI, ultrasound 3 times a year, then 1 time per year in the absence of changes in x-ray data.	CT or MRI, once a year at 3 and 6 months, then every 6 months for 3 years, then once a year for 5 years. Tests are reused when symptoms appear.
Chest examination.	Chest x-ray once a year for 3 years. When the first symptoms appear after the end of the 3-year period.	CT should be performed postoperatively at 3 and 6 months, followed by chest x-ray or CT every 6 months for 3 years, then every 1 year for 5 years.

Table-3

Stages.		First 3 years.	3-5 years.	5 years or more.
I stage.	Chest and regional lymph nodes.	MSCT or ultrasound 1 time per year for 3-12 months.	Based on clinical recommendations for a year.	Based on clinical guidelines.
	Breast.	Chest x-ray once a year.	Once a year MSCT or chest X-ray.	Based on clinical guidelines.
II or III stage.	Chest and regional lymph nodes.	MSCT or ultrasound every 3 months on the 1st course, then once every 6 months from the 2nd course.	MSCT or ultrasound 1 time per year for 3-12 months.	Based on clinical guidelines.
	Breast.	CT and chest x-ray every 3 months for 1 year. It is done once every 6 months from the 2nd year.	CT scan or X-ray of the chest once a year.	Based on clinical guidelines.

RESULTS AND ITS DISCUSSION:

We have obtained the following results:

1. Vessels in a malignant tumor are often located chaotically and incorrectly. Visible vascular rings and pathological connections, abnormal arteriovenous

shunts, characteristic curvature with the formation of vascular lacunae. The caliber of blood vessels is very variable - from a slight expansion to a sharp narrowing with alternating dilated and narrowed fragments. The



walls of blood vessels are very thin and often have an incomplete structure.

2. It is almost impossible to distinguish different types of dilated microvessels in a malignant tumor.

3. In malignant tumors, more capillary-type vessels with a discontinuous basement membrane and damaged endothelial lining can be observed more often. Endothelial cells lining the vessels of a malignant tumor are irregularly located, have an irregular shape, a large number of cytoplasmic protrusions and structural disorders, cells are loosely connected to each other, overlap each other, sometimes protrude into a blood vessel or are located perivascularly.

4. Vessels of malignant tumors are characterized by a high level of permeability, which can play a very important role in the activation of the processes of angiogenesis of a malignant tumor and the formation of the stroma of a malignant tumor.

5. In the lumen of the blood and lymphatic vessels of a malignant tumor, both individual cells of a malignant tumor and emboli of a malignant tumor, the presence of which is considered an unfavorable prognostic factor, can be observed.

CONCLUSIONS:

The dynamic observation algorithm, developed on the basis of research findings and implemented in clinical practice, makes it possible to ensure the correctness of diagnostic measures and follow-up, which improves the 3-, 5-, and 10-year survival rates of patients with BC. Solving the problems of early diagnosis and prognosis of breast cancer in men can reduce the incidence and identify a risk group, improve the prognosis of the treatment, as a result, it can lead to a decrease in mortality, improve long-term results. long-term results of treatment, improving the quality of life and reducing disability.

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