

Follow-up Results of Treatment in Breast Cancer Patients

Algirdas Jackevičius,*
Valerijus Ostapenko,
Saulius Bružas,
Algimantas Mudėnas,
Juozas Kurtinaitis,
Jonas Sabonis

*Institute of Oncology, Vilnius University,
Department of Breast Diseases and
Oncology,
Santariškio 1,
LT-01100, Vilnius, Lithuania*

The aim of this work was to analyse the data on 581 patients with breast cancer treated at the Department of Breast Cancer and Oncology at the Institute of Oncology of Vilnius University. Most of our patients (300, or 51.5%) were treated in stages II and IIB of the disease; 173 (29.7%) patients were in stages III and IIIB and 23 (2.9%) patients in stage IV. The first stage of the disease was found only in 84 (14.4%) patients. The most common operation (in 437 cases) for the treatment of our patients with breast carcinoma was modified Madden radical mastectomy, preserving m. pectoralis major and m. pectoralis minor and vessels and nerves. Quadrantectomy was performed in 123 cases. In the third stage of the disease quadrantectomy was performed only in 6 cases by the will of the patients. Simple mastectomy (without dissection of axillary lymphnodes) was performed in 11 cases. The state of the patients was poor and the surgeon had no possibility to dissect the axillary lymphnodes. Quadrantectomy without dissection of axillary lymphnodes was performed in 11 cases. The status of regional lymphnodes was very important for the survival of our patients. In case N0 5-year survival of patients was 78.3%, in N1 – 68.7%, in N2 – 42.9%. The patients with N3 did not pull through this period.

Key words: breast cancer, modified mastectomy, quadrantectomy, overall survival

INTRODUCTION

Breast cancer is the most common oncological disease among women in Lithuania. In 2001 the incidence of breast carcinoma was 66.7 cases per 100,000 women. There were 1229 new cases of breast cancer. In the last two decades the strategy of the treatment of breast cancer was changed (1). After the 15th International Cancer Congress in 1986 we introduced quadrantectomy for the treatment of breast cancer in early stages of the disease. Now it is possible to analyse our data on various methods of surgical treatment of breast cancer (breast conserving surgery and radical mastectomies). There are a few papers in Lithuanian medical literature about the follow-up results of treatment in women with breast cancer (2, 3). In this paper, we want to analyse the data on patients treated in 1996–1997 at the Department of Breast Diseases and Oncology at the Institute of Oncology of Vilnius University.

MATERIALS AND METHODS

In 1996 and 1997, 581 patients with breast cancer were treated at the Department of Breast Diseases and Oncology at the Institute of Oncology of Vilnius University. The stage of disease and age of patients are presented in Table 1.

Table 1. The distribution of patients with breast cancer according to stage of disease and age of patients

Stage of disease	< 35	35–49	50–64	65–74	75+	Total
0	0	0	1	1	0	2
I	3	18	30	25	8	84
II	4	51	53	37	11	156
IIB	4	48	57	24	11	144
III	4	37	42	19	4	106
IIIB	2	13	22	20	10	67
IV	0	3	10	10	0	23
Total	17 (2.9%)	169 (29.0%)	215 (36.9%)	136 (23.4%)	44 (7.7%)	581

Corresponding author. E-mail address: algirdasj@ is.lt

Most of our patients (300, or 51.5%) were treated in stages II and IIB of the disease; 173 (29.7%) patients were in stages III and IIIB and 23 (2.9%) in stage IV. In the first stage of the disease were treated only 84 (14.4%) patients. In these years carcinoma *in situ* was diagnosed very rarely – only in two cases. Most of breast carcinoma patients were women aged 50–64 years. In our material, in young women breast carcinoma was very rare. The youngest patient was a 27-year-old woman who was treated in the first stage of disease (pT1N0M0). Forty-four patients (7.7%) were aged over 75. The oldest patient of this group was a 96-year old woman who had breast carcinoma in the second stage of the disease.

The most common operation in 437 cases for the treatment of our patients with breast carcinoma was modified Madden radical mastectomy, preserving m. pectoralis major and m. pectoralis minor, as well as vessels and nerves. In three cases the Halsted operation and in one case the Beck operation was performed. Those patients had big tumours (T4b) with exulceration. Quadrantectomy was performed in 123 cases. Most patients were operated on in early stages of the disease. In the third stage of disease quadrantectomy was performed only in six cases by the will of the patients. Simple mastectomy (without dissection of axillary lymphnodes) was performed in 11 cases. The state of the patients was poor and the surgeon had no possibility to dis-

sect the axillary lymphnodes. Quadrantectomy without dissection of axillary lymphnodes was performed in 11 cases. The histological examination of breast tumors is presented in Table 3.

Table 3. **Histological examination of breast tumors according to the age of patients**

Histological type of tumor	Age of patients					Total
	<35	35–49	50–64	65–74	75+	
Adenocarcinoma	1	18	16	8	1	44
Ca comedo	1	3	3		1	8
Ca cribriforme		2	2	1	1	6
Ca ductale	4	8	25	22	5	64
Ca ductale + lobulare	1	14	13	8	4	40
Ca lobulare	5	77	100	55	16	263
Ca lobulare + scirrhosum		6	6	3	2	17
Ca lobulare + solidum		7	6	1	2	16
Ca medulare	2	1	3	2	1	9
Ca mucoides		2	3	5		10
Tumor Paget			3	2		5
Ca scirrhosum		4	1	3	1	9
Ca solidum	2	14	20	10	5	51
Ca tubulare		9	9	4	1	23
Others	1	2	2	2	2	9

Table 2. **Distribution of patients according to the stage of the disease and treatment**

Treatment	Stage of disease						Total
	I	II	IIB	III	IIIB	IV	
Sectorectomy	8	2		1			11
Sectorectomy + rad	3		2		1		6
Ablatio	2	2	1	1	1	2	9
Ablatio + chemotherapy	1						1
Ablatio + radiotherapy	1						1
Quadrantectomy	6	2	3				11
Chemotherapy + quadrantectomy	3	10	9	3			25
Quadrantectomy + radiotherapy	23	20	7	1			51
Rad + quadrantectomy + rad	3	5	8	1	1		18
Che + quadrantectomy + rad	3	5	8	1	1		18
Mastectomy	16	19	9	3	11	1	59
Radiotherapy + mastectomy	2	18	19	19	6	2	66
Rad + che + mastectomy		2	3	8	2	3	18
Radiotherapy + mastectomy + rad	2	2	7	11	6	2	30
Chemotherapy + mastectomy + rad	2	26	37	47	17	8	137
Mastectomy + radiotherapy	7	34	29	6	12	3	91
Mastectomy + tamoxifen	9	12	6	3	8	2	40

Explanations. Sectorectomy – quadrantectomy without dissection of axillary lymphnodes; ablatio – simple mastectomy without dissection of axillary lymphnodes; Rad – radiotherapy; Che – chemotherapy.

Among breast tumors, *ca lobulare* and *ca ductale* were the most common carcinomas in our patients. Three patients had breast sarcoma. The distribution of breast tumors was equivalent in all groups according to the age of patients. The results of operations were satisfactory: no patients died after the operation. In some cases we had hematoma in the region of the wound. Exudation after quadrantectomy and mastectomy was different in every patient. We had no necrosis of skin after operations.

Follow-up results of treatment

The follow-up results after treatment were examined on October 3, 2003. The statistical analysis of the data is made by the Kaplan–Meier method.

Table 4. The state of patients with breast cancer on October 3, 2003

Period of observation	Number of patients	Deaths	Survival %	[95% confidence interval]	
0-1	575	39	93.2	90.8	95.0
1-2	536	37	86.8	83.7	89.3
2-3	499	37	80.4	76.9	83.4
3-4	462	32	74.8	71.0	78.1
4-5	430	24	70.6	66.7	74.2
5-6	406	15	67.1	63.0	70.8
6-7	184	3	64.9	60.3	69.3

In the course of 5 years, 187 patients from 581 treated ones died, the survival of patients was 67.1% (confidence interval 63-70). The survival of patients according to the status of regional lymphnodes is presented in Table 5.

Table 5. Survival of patients with breast cancer according to the status of regional lymphnodes

Interval of observation, years	Number of patients	Deaths	Lost	Survival %	95% confidence	Interval
N = 0						
0-1	243	7	0	97.1	94.1	98.6
1-2	236	12	0	92.2	88.0	94.9
2-3	224	11	0	87.7	82.8	91.2
3-4	213	9	0	83.9	78.7	88.0
4-5	204	7	0	81.1	75.6	85.5
5-6	197	5	98	78.3	72.4	83.1
6-7	94	0	94	78.3	72.4	83.1
N= 1						
0-1	206	8	0	96.1	92.4	98.4
1-2	198	11	0	90.8	85.9	94.0
2-3	187	16	0	83.0	77.2	87.5
3-4	171	10	0	78.2	71.9	83.2
4-5	161	10	0	73.3	66.7	78.8
5-6	151	7	79	68.7	61.6	74.7
6-7	65	3	61	62.7	53.5	70.8
N = 2						
0-1	121	22	0	81.8	73.7	87.6
1-2	99	14	0	70.3	61.2	77.6
2-3	85	0	0	61.9	52.7	69.9
3-4	5	3	0	51.2	42.0	59.7
4-5	62	6	0	46.3	37.2	54.9
5-6	56	3	30	42.9	33.8	51.7
6-7	23	0	23	42.9	33.8	51.7
N = 3						
0-1	2	2	0			

The status of regional lymphnodes was very important for the survival of our patients. In N0 cases, the 5-year survival of patients was 78.3%, in N1 68.7%, in N2 42.9%. The patients with N3 did not survive this period.

Table 6. Survival of patients with breast cancer according to method of operation

Interval of observation, years	Number of patients	Deaths	Lost	Survival %	95% confidence	Interval
Simple mastectomy						
0-1	11	1	0	90.9	50.8	98.7
1-2	10	3	0	63.6	29.7	84.5
2-3	7	1	0	54.6	22.8	77.9
3-4	6	2	0	36.4	11.2	62.7
4-5	4	0	2	36.4	11.2	62.7
5-6	2	0	2	36.4	11.2	62.7
Quadrantectomy						
0-1	111	3	0	97.3	91.9	99.1
1-2	108	6	0	91.9	85.0	95.7
2-3	102	5	0	87.4	79.63	92.3
3-4	97	4	0	83.8	75.5	89.5
4-5	93	2	51	81.9.	73.5	87.9
5-6	40	38	38	77.9	67.6	85.3
Radical mastectomy						
0-1	439	35	0	92.0	89.0	94.2
1-2	404	32	0	84.7	81.0	87.8
2-3	372	29	0	78.1	73.9	81.7
3-4	343	25	0	72.4.	68.0	76.4
4-5	318	20	147	67.9	61.3	72.0
5-6	298	13	136	64.9	60.3	69.2
Sectorectomy						
0-1	14	2	0	85.7	53.9	96.2
1-2	12.	1	0	78.6	47.3	92.5
2-3	11	6	7	78.6	47.3	92.5
3-4	4		4	78.6	47.3	92.5

The survival was best after quadrantectomy: a 5-year survival reached 81.9% (CI. 73.5-87.9); after radical mastectomy it was 67.9% (CI 61.3-72.0), whereas after simple mastectomy it was 36.4% (CI 11.2-62.7).

Data on 5-year survival of breast cancer patients according to the method of treatment are presented in Table 7.

Adjuvant therapy (chemotherapy, radiotherapy) improved the follow-up results in patients treated by quadrantectomy. According to our data, additional treatment (radiotherapy, chemotherapy) after mastectomy did not improve the survival of patients. However in the cases when the patients after mas-

Tabl 7. 5-year survival of patients with breast cancer according to the method of treatment

Method of treatment	5-year survival of patients (%)	95% confidence	Interval
Quadrantectomy	63.6	29.7	84.5
Chemotherapy + Quadrantectomy	90.9	68.3	97.6
Chemotherapy + Quadrantectomy + Chemotherapy	80.0	49.8	93.1
Quadrantectomy + Radiotherapy	86.0	72.9	93.1
Mastectomy	73.7	60.2	83.2
Mastectomy + Radiotherapy	75.6	64.5	83.7
Radiotherapy + mastectomy	73.9	61.4	82.9

tectomy received hormonal therapy (tamoxifen), they lived longer than those who were not treated with this drug (Figure).

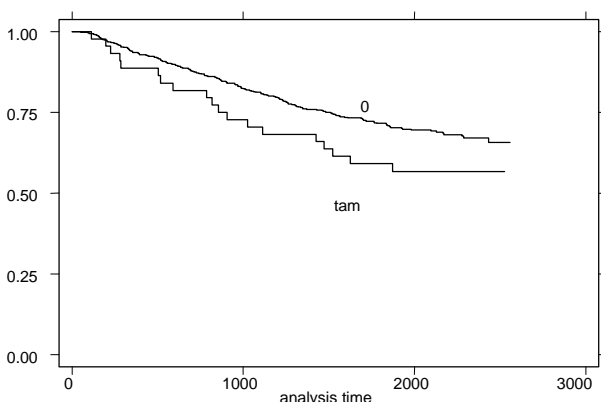


Figure. Overall survival in patients treated with mastectomy + tamoxifen (tam) and without it (0)

In our material, local recurrence of tumor was diagnosed in 9 (7.3%) patients after quadrantectomy. Most patients had metastatic axillary lymphnodes. Local recurrent tumors were treated surgically. In the cases of small tumors sectorectomy was performed, and simple mastectomy was applied to patients with big recurrent tumors.

DISCUSSION

The follow-up results of the treatment of breast cancer confirm that quadrantectomy is a suitable operation for the treatment of patients in early stages of breast cancer. The survival rate of patients after quadrantectomy was similar to that in patients to

whom radical mastectomy was performed. The most important factor for the follow-up results of treatment is the state of regional lymphnodes (N). In the N2 cases, the survival of patients was shorter than in patients with N0 and N1. Adjuvant therapy (radiation therapy, chemotherapy) improved the follow-up results in stages II and IIB after quadrantectomy. Hormonal therapy had some influence on the survival of patients. The patients who received tamoxifen after mastectomy lived longer than those who did not receive this treatment. In these years we have not yet known the hormonal receptors of tumors, but these data were similar in the reports of other authors (6, 7, 9).

CONCLUSIONS

1. The follow-up results after quadrantectomy and radical mastectomy were similar in early stages of breast cancer.
2. The status of regional lymphnodes has the greatest influence on the survival of patients.
3. Adjuvant therapy improved the follow-up results of our patients treated by quadrantectomy.
4. Hormonal therapy improved the survival of patients after mastectomy.

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**Algirdas Jackevičius, Valerijus Ostapenko,
Saulius Bružas, Algimantas Mudėnas,
Juozas Kurtinaitis, Jonas Sabonis**

SERGANĖIŲJŲ KRŪTIES VĖPIU TOLIMESNI GYDymo REZULTATAI

S a n t r a u k a

Pateikiami serganėjųjŲ krūties vėpiu tolimesni gydymo rezultatai. 1996–1997 metai Vilniaus universiteto Onkologi-

jos instituto Krūtø ligø ir onkologijos skyriuje buvo gydyta 581 ligonė. Ið jø 300 (51,5%) sirgo II ir IIB ligos stadija, 173 (29,7%) ligonėms buvo diagnozuotas III ir IIIB stadijos vėpys. Ketvirtąja ligos stadija sirgo 23 (2,9%), pirmąja – 84 (14,4%) ligonės. Daþniausiai serganėsioms buvo atliekama radikali Madden tipo modifikuota mastektomija. Atsiþvelgiant á ligoniø sveikatos būklę 11 atvejø padaryta paprasta mastektomija, 11-ai paðalintas tik naviko paþeistas krūties sektorius. Sritiniø limfmazgiø metastazės turėjo didþiausia átakà ligoniø iðgyvenimo trukmei: nesant limfmazgiuose metastaziø (N0) penkerius metus gyveno 78,3% gydytø ligoniø, esant N1 – 68,7%, N2 – 42,9%. Nė viena ligonė su N3 neiðgyveno penkeriø metø.

Raktaþodþiai: krūties vėpys, modifikuota mastektomija, kvadrantektomija, atokūs gydymo rezultatai