

# Breast Cancer Mortality in Relation to Clinical Stage and Type of Surgical Procedure

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## Abstract

**Introduction:** Breast cancer represents a malignant lump in the breast that can cause a change in the shape of the breast, a change in the color of the skin of the breast, indentation of the breast and discharge from the nipple.

**The aim:** The aim of this study was monitoring of all the patients who were diagnosed with breast cancer and were treated in the regional center in Kruševac.

**Material and methods:** All patients operated on by one of the methods were monitored, and the date of the last control was taken as relevant data for the assessment of DFI and OS (Disease free interval - the period from setting up a diagnosis to the first relapse and Overall survival – the total survival in both groups. The percentage of mortality in both groups in relation to the clinical stage of the disease was analyzed.

**Results:** The largest number of patients underwent modified radical mastectomy, more than three times more than with breast-conserving surgery. Unfortunately, in 5.01% of patients only a biopsy was performed, which confirms the diagnosis of inoperable cancer, while the fate of 5 diagnosed cancers is unknown. There is no statistically significant difference in the percentage of mortality in both groups of patients operated on by modified radical mastectomy and patients operated on by breast-conserving surgery, up to stage IIIa, ( $t=0.39$ ,  $p>0.05$ ).

**Conclusion:** Analysis of the percentage of mortality did not show statistically significant differences in the percentage of mortality in both groups operated with modified radical mastectomy and breast-conserving surgery at the same clinical stage and for the same time period.

**Keywords:** Breast cancer • Surgical procedures

## Introduction

Breast cancer is the leading cause of death from malignant diseases of women in the world, including our country [1]. Despite of significant discoveries in the recognition of prognostic and predictive factors, patients still die in a large percentage due to the metastatic spread of the disease. Early stage diagnosis allows a potential cure. If the cancer begins to spread to distant organs, the therapy has only palliative significance [2].

The share of breast cancer in mortality from malignant diseases is facilitated by adequate planning of treatment, determination of prognosis and assessment of treatment results [3]. Breast cancer is subject to the TNM classification, which is based on the determination of tumor size (T), the status of regional lymph glands determined by clinical examination (N), and the presence of distant metastases (M), based on standard diagnostic work-up (Table 1).

Breast cancer treatment involves the teamwork of surgeons, pathologists, radiologists and chemotherapists. Depending on the indications, surgical therapy today consists of modified radical mastectomy and breast-conserving surgery (Figure 1).

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## Material and Methods

The analysis includes 339 breast cancer patients diagnosed and treated at the regional center in Kruševac. All patients operated on by one of the methods were monitored, and the date of the last control was taken as relevant data for the assessment of DFI and OS (Disease free interval - the period from diagnosis to the first relapse and Overall survival - overall survival in both groups. The percentage of mortality in both was analyzed groups in relation to the clinical stage of the disease.

## Work results

The largest number of patients was operated on with a modified radical mastectomy, more than three times more than with breast-conserving operation. Unfortunately, in 5.01% of patients only a biopsy was performed, which confirms the diagnosis of inoperable cancer, while the fate of 5 diagnosed cancers is unknown (Figure 2 and Table 2).

For stages from 0-IIIa  $t=0.39$ ,  $p>0.05$

There is no statistically significant difference in the percentage of mortality in both groups up to stage IIIa, ( $t=0.39$ ,  $p>0.05$ ). After that, locally advanced breast cancers, especially if they are inflamed and accompanied by bleeding, indicate a mastectomy out of comfort in order to improve the quality of life (Figure 3).

## Discussion

Due to its epidemiological characteristics, breast cancer is the most significant malignant disease of women. Every year in Serbia, about 4,000 women fall ill, and 1,300 die. The World Health Organization has estimated that in this century every 8th woman on the planet will fall ill with this disease. The number of new patients is constantly increasing, worldwide by 1-2% per year,

**Table 1.** Grouping by stages.

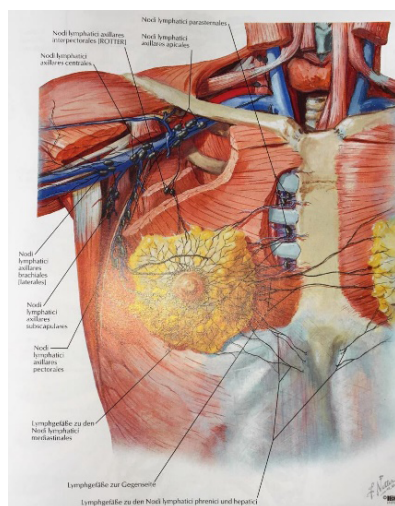
Stage	T	N	M
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage IIA	T0	N1	M0
	T1	N1	M0
	T2	N0	M0
Stage II B	T2	N1	M0
	T3	N0	M0
Stage III A	T0	N2	M0
	T1	N2	M0
	T2	N2	M0
Stage III B	T3	N1, N2	M0
	T4	N0, N1, N2	M0
Stage III C	any T	N3	M0
Stage IV	any T	any N	M1

Tis in situ; T1< 2cm; T1 mic< 0, 1 cm; T1a> 0, 1 do 0, 5 cm; T1b>0, 5 do 1 cm; T1c>1 do 2 cm; T2>2 do 5 cm; T3>5cm; T4 chest wall / skin; T4a chest wall; T4b skin edema / ulceration, satellite nodule in the skin T4c o6a 4a i ab; T4d inflammatory carcinoma N

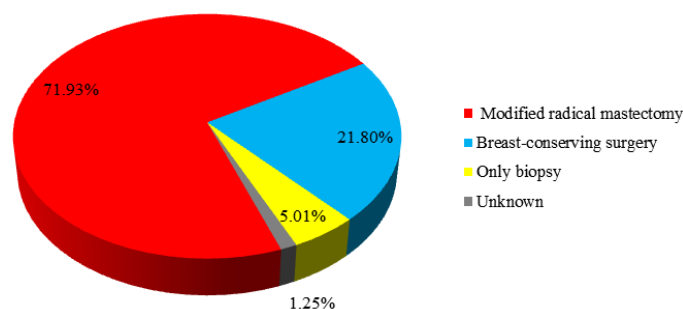
N1	movable axillary	pN1	micrometastasis >0.2 mm
		pN1a	1-3 axillary nodes
		pN1b	metastasis in internal mammary nodes detected by sentinel lymph node biopsy which is not clinically obvious
		pN1c	1-3 axillary lymph nodes and nodes along the internal mammary with microscopic metastasis detected by sentinel lymph node biopsy that is not clinically apparent
N2a	fixed axillary	pN2a	4-9 axillary nodes
N2b	internal mammary nodules	pN2b	internal mammary nodules, clinically evident, without axillary nodules
N3a	infraclavicular	pN3a	10 axillary lymph nodes or infraclavicular lymph node(s)
N3b	internal and axillary mammary nodules	pN3b	internal mammary nodes, clinically apparent, with axillary node(s) or >3 axillary nodes with microscopic metastasis in internal mammary nodes detected by sentinel lymph node biopsy that is not clinically apparent

**Table 2.** Mortality according to type of operation and clinical stage.

Type of operation	Clinical stage							In total
	0	I	Ila	Ilb	IIla	IIlb	IV	
Modified radical mastectomy	1	34	90	125	26	8	4	287
	0	3	7	21	10	5	2	
	(0,00%)	(8,82%)	(7,77%)	(16,18%)	(38,46%)	(62,50%)	(66,66%)	
Breast-conserving operation	0	9	6	9	8	29	26	87
	0	0	1	2	1	7	19	
	(0,00%)	(0,00%)	(16,66%)	(22,22%)	(12,50%)	(23,33%)	(63,33%)	
Only a biopsy	1	2	2	1	3	7	4	20
	0	0	0	0	2	3	2	
	(0,00%)	(0,00%)	(0,00%)	(0,00%)	(66,66%)	(42,85%)	(50,00%)	
Unknown	0	0	0	0	0	3	2	5
<b>In total</b>	2	45	98	135	37	47	35	399
	0	3	8	23	13	15	23	85



**Figure 1.** Lymphatic pathways of breast cancer spread.



**Figure 2.** Distribution of patients according to the type of operation.

while in our country the percentage is much higher.

Early diagnosis of breast cancer, the use of neoadjuvant chemotherapy and post operational radiotherapy have enabled the use of breast-conserving surgery in recent decades. Breast-conserving surgery involves removal of the primary tumor while preserving the volume and symmetrical appearance of the breast and, most often, functional dissection of the axillary pit with postoperative

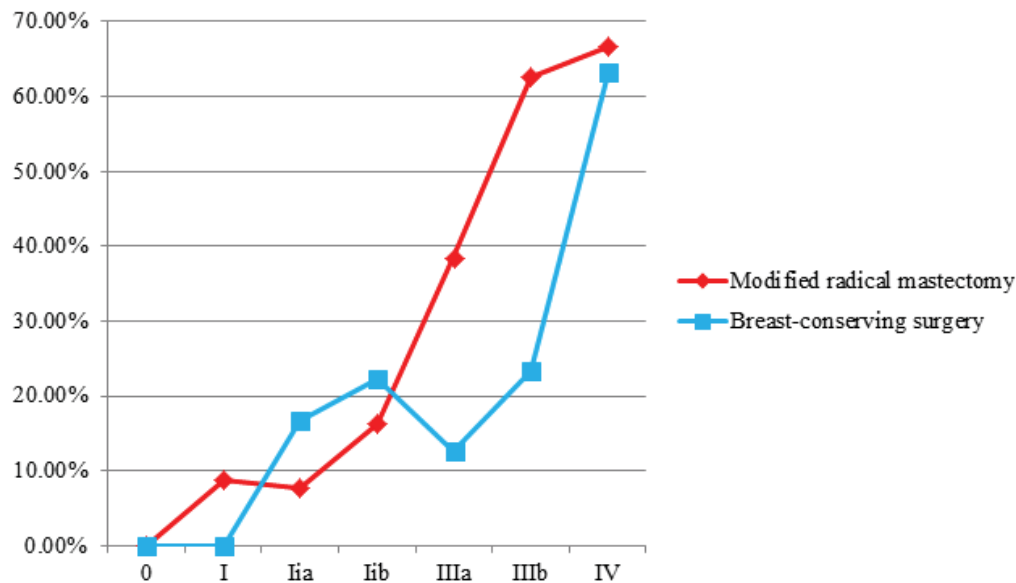


Figure 3. Mortality in breast cancer according to clinical stage depending on the type of operation.

radiotherapy of the rest of the breast and possibly regional lymph glands [4,5].

The goal of breast-conserving surgery is to make the treatment result equal to that one achieved by mutilation surgery, while at the same time providing the patient with a better quality of life because the breast is preserved. The aesthetic result therefore plays an important role in breast conservation surgery [6,7]. The surgical technique of breast-conserving operations was developed from the surgical technique of modified radical mastectomy at a time when radical surgical treatment was given more importance than it actually has [8]. In our study, 399 patients with breast cancer were included, where more than three times as many underwent modified radical mastectomy than breast-conserving surgery.

## Conclusion

Analysis of the percentage of mortality did not show statistically significant differences in the percentage of mortality in both groups operated at the same clinical stage and for the same time period.

## Acknowledgement

None.

## Conflict of Interest

None.

## References

1. Bray, F, R. Sankila, J. Ferlay and D. M. Parkin. "Estimates of cancer incidence and mortality in Europe in 1995." *Eur J Cancer* 38 (2002): 99-166.
2. Bonetti, M, R. D. Gelber, A. Goldhirsch and M. Castiglione-Gertsch, et al. "Features that predict responsiveness to chemotherapy and endocrine therapies." *Breast* 10 (2001): 147-157.
3. Parkin, D. M. "The global burden of cancer." *Semin Biol* 8 (1998): 219-235.
4. Sarrazin, Danièle, Monique Lè, Jacques Rouëssé and Geneviève Contesso, et al. "Conservative treatment vs. mastectomy in breast cancer tumors with macroscopic diameter of 20 millimeters or less the experience of the institut gustave-roussey." *Cancer* 53 (1984): 1209-1213.
5. Fisher, Bernard, Madeline Bauer, Richard Margolese and Roger Poisson, et al. "Five-year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer." *N Engl J Med* 312 (1985): 665-673.
6. Jamison, Kay R, David K. Wellisch and Robert O. Pasnau. "Psychosocial aspects of mastectomy: I. The woman's perspective." *Am J Psy* 135 (1978): 135:432
7. <https://www.booklooker.de/app/detail.php?id=A02C7fAA01ZZB&pid=76312&t=8waeme3mfme9f397>
8. Ivanović N. "Therapeutic and aesthetic effects of functional dissection of the axilla in breast cancer surgery." *Doctoral Dissertation* (2006).

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