Invasive lobular breast cancer: Ten-year follow-up data from a single center

Ivica Ratosa[1,2*], Dimitar Stefanovski[3], Magdalena Sojar[1], Valentina Jeric Horvat[3], Romi Cencelj Arnez[4], Bostjan Seruga[2,3], Domen Ribnikar[2,3]

[1] Division of Radiotherapy, Institute of Oncology Ljubljana, Ljubljana, Slovenia; [2] Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia; [3] Division of Medical Oncology, Institute of Oncology Ljubljana, Ljubljana, Slovenia; [4] Division of Surgery, Institute of Oncology Ljubljana, Ljubljana, Slovenia

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Introduction

Invasive lobular carcinoma (ILC) is recognized as a distinct disease from breast carcinoma of no special type. Studies have shown that breast-conserving surgery (BCS) followed by radiotherapy (RT) gives local control and overall survival (OS) rates that are similar to those of mastectomy. There is also some evidence that BCS plus radiotherapy improves survival and local control in early-stage breast cancer, including ILC, compared to mastectomy alone.

Methods and Materials

Individual clinical records provided demographic, histological, systemic, and local therapy data. We compared clinical and tumor characteristics between groups using independent-sample t-tests for continuous variables and Pearson's $\chi 2$ tests for categorical data. Continuous variable medians with sample ranges were used. The log-rank test compared the two groups, while the Kaplan–Meier method computed survival curves. Cox's proportional hazards models—univariate and multivariate—were used to assess survival effects.

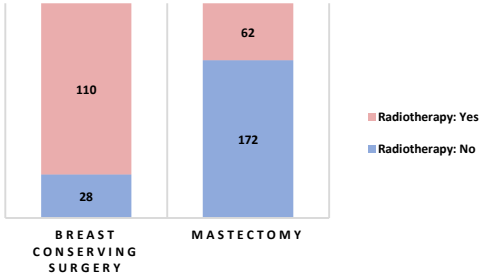


Figure 1: Type of local treatment (p<0.001)

Results

The study cohort consisted of 372 patients with early-stage ILC diagnosed between 2003 and 2008 and treated with either BCS (n=138, 37.1%) or mastectomy (n=234, 62.9%). RT was received by 110 (79.7%) patients in the BCS group and 62 (26.5%) in the mastectomy group (p<0.001) (**Figure 1**).

Median age of patients was 62 years (range, 33-90). Median follow-up was 10.7 years (0.1-21.2). Patient and treatment characteristics are presented in a **Table 1**. A total of 33 patients (8.9%) in the entire group developed loco-regional recurrence. In terms of surgical type, locoregional relapse was observed in 8 (5.8%) patients of the BCS group and 25 (10.7%) patients of the mastectomy group (p=0.030) (**Figure 2**).

Compared to patients receiving RT, higher rate of locoregional recurrence was observed among patients who did not receive RT (n=11; 6.4% vs n=22; 11.0%); the difference was statistically significant (p=0.015) (**Figure 3**). The 5-year and 10-year freedom from locoregional recurrence were 98% and 95%, respectively. Eighty-two (22.0%) patients experienced distant relapse. Compared to BCS, more patients in the mastectomy group experienced distant relapse (n=21; 15.3% vs n=61; 26.2%; p=0.004).

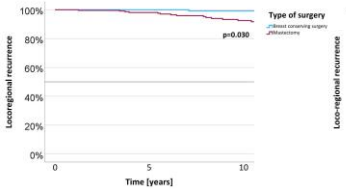


Figure 2: Locoregional recurrence.

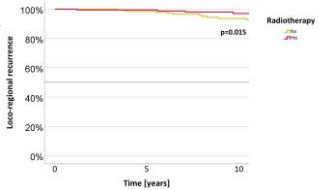


Figure 3: Radiotherapy and loco-regional recurrence.

During the follow-up period, 163 (43.8%) patients died. The 5-year and 10-year survival rates for the whole cohort were 85% and 64%, respectively.

The OS for the entire cohort was 14.1 years (13.7-16.8), for BCS it was 15.1 years (15.6-19.7), and for mastectomy it was 13.4 years (12.2-15.6), respectively (p=0.020). OS differed according to the specific ILC subtype, being the longest for tubulolobular and the shortest for the solid subtype (p=0.016). In a multivariate analysis, lower T stage (p<0.001) and premenopausal status (p<0.01) were the only two factors that correlated with improved OS.

Parameter	All patients N=372 (%)	Breast conserving surgery, N=138 (%)	Mastectomy N=234 (%)	p value
Tumor size [mm], range	21 (4-150)	16 (5-55)	25 (4-150)	<0.001
Tumor multifocality	28 (7.5)	11 (8.0)	17 (7.3)	0.0234
Tumor multicentricity	53 (14.2)	0 (0)	53 (22.6)	<0.001
Number of positive lymph nodes, range	0 (0-42)	0 (0-23)	0 (0-42)	<0.001
Hormone receptor positive status	359 (96.5)	135 (97.8)	224 (95.7)	0.387
HER2 positive	21 (5.6)	6 (4.3)	15 (6.4)	0.490
Lympho-vascular invasion	24 (6.5)	3 (2.2)	21 (9.0)	0.009
Perineural invasion	47 (12.6)	15 (10.9)	32 (13.7)	0.519
Post-menopausal status	271 (72.8)	102 (73.9)	169 (72.2)	0.713
Adjuvant chemotherapy only	13 (3.5)	3 (2.2)	10 (4.3)	0.159
Adjuvant chemotherapy and endocrine therapy	93 (25.0)	19 (13.8)	74 (31.6)	<0.001
Endocrine therapy only	254 (68.3)	112 (81.2)	142 (60.7)	<0.001
No systemic therapy	12 (3.2)	4 (2.9)	8 (3.4)	0.326
Radiation therapy	172 (46.2)	110 (79.7)	62 (26.5)	<0.001

Table 1: Patients and tumor characteristics.

Conclusions

In our single-center 10-year follow-up data of ILC, we have found that ILC had very high 5- and 10-year locoregional control, regardless of the type of local treatment. However, ILC is associated with a high risk of late distant recurrence.

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*Contact: Ivica Ratosa, iratosa@onko-i.si