Surgery improves survival in elderly with breast cancer. A study of 465 patients in a single institution

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Abstract

Introduction: Breast cancer treatment in elderly patients is controversial. This single-centre study was conducted to review the treatment and outcomes for octogenarian women treated for breast cancer.
Methods: Data from all patients aged 80 years or more with primary breast cancer treated at our institution between 1995 and 2012 were included. Patients with carcinoma in-situ (stage 0) and advanced breast cancer (stage IV) were excluded.
Results: The study population consisted of 369 patients (median age 84 years). A total of 277 (75%) patients underwent surgical treatment (PST) and 92 (25%) received primary endocrine treatment (PET). Prognostic factors (HER-2, tumour grade, lymphovascular invasion and subsequent adjuvant therapy) were homogeneously distributed in both groups. PST and PET were stratified according to stage: 273 (66%) patients with early stage disease (I, IIA, IIB) and 96 (34%) with locally advanced disease (IIIA, IIIB, IIIC). Patients were followed-up for a median of 63 months. In patients with early stage disease, the mean breast cancer-specific survival (BCSS) was 109 months (95% CI = 101–115) in PST patients, and 50 months (95% CI = 40–60) in PET patients (P < 0.01). Conversely, for patients with locally advanced breast cancer, there was no significant difference in BCSS between the surgical and non-surgical groups. In the PST group, BCSS and disease-free survival were significantly better among patients who underwent standard surgical treatment than among those who received suboptimal treatment. There were no differences in the Charlson comorbidity index scores between the PST and PET groups.
Conclusion: In women ≥80 years with early-stage breast cancer, standard surgical treatment was associated with a better BCSS when compared with PET.
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Keywords: Breast cancer; Elderly patients; Breast cancer-specific survival; Primary surgical treatment; Primary endocrine therapy; Charlson comorbidity

Introduction

The risk of breast cancer increases with age, and the increased life expectancy in today's society has shown a rise in breast cancer cases in women older than 80 years. Thirty per cent of breast cancer occurs in women over 75 years old.[1,2] Age is an independent risk factor determining a non-standard treatment. Perhaps patients' comorbidities influence treatment; older patients may receive treatments considered inferior to those received by younger patients.[3–6]

Primary hormonal therapy without surgery (PET) is a non-curative alternative treatment to primary surgery with hormonal therapy (PST).[7,8] Studies have shown that PET has inferior loco-regional control, but that this does not affect overall survival.[9]

In 2013, we published a study[10] demonstrating the beneficial effects of surgery on patient survival for this age group. The aim of the present study was to verify if the treatments received by the patients (surgical or hormonal primary therapy) influence the prognosis, using a larger

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database of patients and updated data. Additionally, we wanted to see if comorbidities influenced patients' decisions on which treatment to have; whether those having a higher comorbidity received 'inferior' treatment, such as hormonal therapy alone, or non standard surgery. In the PST group, we also investigated whether type of surgery (standard or non standard) influenced patients' prognosis.

Methods

Our study included breast cancer patients of 80 years or more, all diagnosed at our centre between 1995 and 2011. Their epidemiological, clinical, and histo-pathological data were analysed, as well as the treatment they received Table 1.

Follow-up data was obtained from clinical history or by phone call. For deceased patients, date and cause of death was also collected. In our unit, follow-up of all patients was 6-monthly appointments with a surgeon and an oncologist for the first 5 years, followed by annual appointments for the next five years. Appointments include a physical examination and blood test to assess tumour markers, and an annual mammogram. CT and MRI scans were not routinely performed. Phone call was only needed in a few patients lost to follow-up.

The patients were divided into two groups, depending on the treatment they received: PST or PET.

The choice of primary treatment (PST or PET) was clinical (formal anaesthesia contraindication or surgeon's preference) or based on patient preference.

The PET and PST groups were then stratified into two groups based on clinical stage: early stage (E I, IIA, IIB)

and locally advanced stage (III). Those patients in stages 0 and IV were excluded from the study. Inoperable patients in the PET group who underwent surgery following endocrine therapy were also excluded to prevent bias.

Within each group, the effect of treatment on prognosis was analysed by observing breast cancer-specific survival (BCSS) rates. Endocrine therapy was administered in the PST group if the hormone status was positive. In the PET group all patients received tamoxifen or aromatase inhibitors. The type of treatment varied according to year of diagnosis and tolerance of treatment. If necessary, chemo- and/or radiotherapy were administered, following the oncologic standard guidelines in both groups.

Within the PST group, BCSS and disease free survival (DFS) were analysed in patients who received standard surgical treatment (radical mastectomy, simple mastectomy and sentinel lymph node biopsy (SNLB), tumourectomy and SNLB, or tumourectomy and lymphadenectomy), and

Table 2
Patient's distribution depending on treatment (PST or PET) and Stage.

		PST	PET	Total
Early stages	I	67	7	273
	IIA	102	21	
	IIB	60	16	
	Total	229	44	
Locally advanced	IIIA	20	5	96
	IIIB	19	42	
	IIIC	9	1	
	Total	48	48	
Total		277	92	369

Table 1
Baseline characteristic of the total cohort.

Clinical presentation		n (%)
Clinical Examination	Tumour	343 (65%)
	Tumour + axillary node	18 (69%)
	Ulcer	22 (8%)
	negative	23 (6%)
	Nipple lesion	3 (0.8%)
	Others	2 (0.5%)
Size	<10	30 (8%)
	10–20	119 (32%)
	21–50	188 (50%)
	>50	32 (8%)
Stage	0	29 (8%)
	I	55 (15%)
	II	184 (50%)
	III	81 (22%)
	IV	33 (9%)
Histology	IDC	274 (75%)
	Tubular,mucinous,papilar	60 (15%)
	ILC	23 (5%)
	others	11 (3%)
HR	Positive	339 (91%)
	Negative	30 (9%)
Her2	Negative	126 (90%)
	Over expressed	14 (10%)

Table 3
Homogeneity between PET and PST groups, in all patients and in early stage subgroup.

	PST	PET	P
All patients			
Age	83.8	85.2	P = 0.01
	(95% CI 83,3–84,3)	(95%CI84.5–85.9)	
Hormone status +	267 (95%)	90 (99%)	P = 0.09
Chemotherapy	38 (13%)	14 (13%)	P = 0.49
Radiotherapy	70 (24%)	22 (20%)	P = 0.53
L-VI	44 (15%)	12 (11%)	P = 0.08
TG I-II	198 (74%)	126 (84%)	P 0.01
TG III	68 (25%)	23 (15%)	P 0.01
Her 2 +	27 (10%)	9 (11%)	P = 0.53
Charlson	5 (4–7)	4.6 (4–6).	P = 0.8
Early stage			
Age	83.9	84.8	P = 0.01
	(95% CI 83,3–84,5)	(95%CI84.6–85.9)	
Hormone status +	220 (96%)	43 (99%)	P = 0.05
Chemotherapy	27 (12%)	4 (10%)	P = 0.6
Radiotherapy	45 (20%)	9 (22%)	P = 0.8
Linf-vasc inv.	27 (12%)	4 (10%)	P = 0.06
TG I-II	164 (72%)	37 (85%)	P 0.01
TG III	70 (31%)	2 (5%)	P 0.01
Her 2 +	25 (11%)	5 (12%)	P = 0.53
Charlson	5.2 (4–7)	4.8 (4–6).	P = 0.8