10-Years Follow-Up of Early Breast Cancer: Experience of Zagazig University Hospital

Mostafa M. Toam, MD[1], Ahmed M. Yehia, MD[2] and Samah S. Sheta MD[3]

[1]Department of Clinical Oncology and Nuclear medicine, Faculty of Medicine Zagazig University, Egypt.
[2]Department of Surgery, Faculty of Medicine Zagazig University, Egypt.
[3]Department of Industrial Medicine and Occupational Health, Faculty of Medicine Zagazig University, Egypt.
m_toam@yahoo.com

Abstract: Aim of the study: This is retrospective study was done to assess prognosis of early breast cancer and correlate this prognosis to prognostic factors. **Patients and methods:** This is retrospective study carried out at the clinical oncology department, Zagazig university on 351 early breast cancer patients diagnosed and treated between 2005-2007. **Results:** The median follow-up was 65 months. Locoregional recurrence occured in 45 patients (12.8%) and distant metastasis occurred in 50 patients (14.2%). The DFS at 3, 5, 7 , 10 years were 94.8%, 79.4%, 59.7%, 50.8% respectively. The OS at 3, 5, 7, 10 years were 95.1%, 79.5%, 60.6%, 52.4% respectively. **Conclusions:** The most important prognostic factor for overall survival and relapse free survival are positive LNs, tumor size, T3 and pathological grade.

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Key words: breast cancer, follow up

1. Introduction

Breast cancer is by far the most frequent cancer among women and the leading cause of cancer death in females worldwide, accounting for almost 1.4 million new cancer cases diagnosed in 2008 (23% of all cancers) and 14% of the total cancer deaths (1). Data from the regional population-based cancer registry at Gharbia governorate 2000-2002 as well as data from the National Cancer Institute hospital based registry show that breast cancer is the first cancer in Egypt (19%) of all cases, male and female together (2). In Fakous district, Sharkia governorate, the most frequent age groups are 30-39 , 20-29 and 40-49 (27.9%, 24.9% and 22% respectively) (3). Breast cancer in Egypt has been reported to be biologically more aggressive disease than that in Western countries with predominance of premenopausal patients with late presentation in advanced stages (4). Many prognostic factors have been studied. The most significant prognostic indicator for patients with early-stage breast cancer is the presence or absence of axillary lymph node involvement. Furthermore, there is a direct relationship between the number of involved axillary nodes and the risk for distant recurrence (5, 6). Tumor size correlates with the presence and number of involved axillary lymph nodes and is also an independent prognostic factor, with distant recurrence rates increasing with larger tumor size (7). The pathologic characteristics of the tumor have prognostic significance. Certain subtypes such as tubular, mucinous, and medullary have a more favorable prognosis than unspecified breast cancer (8-10). Many studies evaluating the influence of age on outcome in breast cancer have been small and have had conflicting results (11-15). Two relatively large trials have, however, demonstrated a worse prognosis for patients younger than 35 years of age, even after adjustment for other prognostic factors (16, 17).

The prognostic significance of estrogen or progesterone receptors is limited. Its optimal use is as a predictive factor for the benefit of adjuvant tamoxifen therapy (18). HER2/neu overexpression is associated with increased tumor aggressiveness, increased rates of recurrence, and increased mortality in node-positive patients, while the influence in node-negative patients is more variable (19-22).

2. Patients and Methods

This is a retrospective study on female patients with early breast cancer who were treated at the clinical oncology department of the Zagazig University between 2005 and 2007. The medical records of 351 patients were reviewed and the data collected for each patient included age, clinical stage at diagnosis, pathologic grade, hormone receptor status, treatment outcome and last follow up date.

Statistical Analysis

Continuous variables were expressed as the mean ± SD & median (range), and the categorical variables were expressed as a number (percentage). Percent of categorical variables were compared using the Pearson's Chi-square test. Overall Survival (OS) was calculated as the time from diagnosis to death or date last known alive (censored). Disease Free Survival (DFS) was calculated from time of surgery to date of recurrence (locoregional or distant metastasis) or date

last known free from recurrence (censored). Stratification of OS, & DFS was done according to prognostic factors. These time-to-event distributions were estimated using the method of Kaplan-Meier, and compared using two-sided exact stratified log-rank tests. All tests were two sided with $p < 0.05$ was considered statistically significant (S), and $p > 0.05$ was considered non statistically significant (NS). All statistics were performed using SPSS 22.0 for windows (SPSS Inc., Chicago, IL, USA) & MedCalc 13 for windows (MedCalc Software bvba, Ostend, Belgium).

3. Results

The study included 351 patients, the median follow up was 65 months.

Patient's Characteristics: The age of the patients ranged between 20 and 78 years, the mean age was 48.75±10.41, those below 35 years constituted about 12.3% of patients. 8.8% of patients were single women. Premenopausal patients constituted about 44.4% of our patients while 41.6% were postmenopausal, while 14% were perimenopausal. History of oral contraceptive pills was recorded in 33.3% of patients. As regard breast feeding, 150 patients had breast feeding of their Offsprings. Relevant family history of breast cancer was revealed in 59 patients (16.8%). Fine needle aspiration was done for 96.3% of cases, excision biopsy for 3.7% of patients.

Table (1): Patient's Characteristics of the studied early breast cancer (N=351).

	No.	%		No.	%
Age (year)			Site of tumor		
Mean ± SD	48.75 ± 10.41		Upper outer 1/4	275	78.3%
Median (Range)	50 (20 – 78)		Upper inner 1/4	45	12.8%
≤ 35 year	43	12.3%	Lower outer 1/4	18	5.1%
> 35 year	308	87.7%	Lower inner 1/4	7	2%
			Central	6	1.7%
Marital status			Grade		
Single	31	8.8%	Grade I	24	6.8%
Married	320	91.2%	Grade II	275	78.3%
			Grade III	52	14.8%
Menopausal status			T		
Premenopausal	156	44.4%	T1	68	19.4%
Postmenopausal	146	41.6%	T2	266	75.8%
Perimenopausal	49	14%	T3	17	4.8%
Use of Oral Contraceptive Pills			N		
No	234	66.7%	N0	63	17.9%
Yes	117	33.3%	N1	288	82.1%
Breast Feeding of her offspring			TNM classification		
No	201	57.3%	T1N0	24	6.8%
Yes	150	42.7%	T2N0	22	6.3%
Family history			T1N1	44	12.5%
Irrelevant	292	83.2%	T2N1	244	69.5%
Relevant	59	16.8%	T3N0	17	4.8%
Type of biopsy			AJCC Stage		
FNAB	338	96.3%	Stage I	24	6.8%
Excisional biopsy	13	3.7%	Stage II	327	93.2%
Histopathological type			Hormonal receptor		
IDC	285	81.2%	Negative	29	8.3%
ILC	49	14%	Positive	322	91.7%
Mucinous carcinoma	13	3.7%	HER2/neu		
Medullary carcinoma	3	0.9	Negative	307	87.5%
Sarcoma	1	0.3	Positive	44	12.5%

IDC: Invasive duct carcinoma, ILC: Invasive lobular carcinoma

Tumor's Characteristics: The most common pathological type was invasive duct carcinoma (81.2%) while invasive lobular carcinoma was found in 14% of patients. The most affected quadrant of breast was

upper outer quadrant (78.3%) while central tumor was found in 1.7% of cases. The most frequent pathological grade was grade II (78.3%), while grade I carcinoma was found in 24 patients (6.8%). Tumor size between 2 – <5 cm was found in 266 patients (75.8%), while 19.4% of patients had T1 tumors. Sixty three patients has negative axillary lymph nodes, while the majority of patients had positive axillary lymph node (82.1%). According TNM classification, 69.5% of cases had T2N1 disease, while 17 patients (4.8%) had T3N0 disease. Twenty four patients were AJCC stage I while 93.2% of cases were stage II. Positive hormonal receptor either estrogen receptor or progesterone receptor or both of them was founded in 91.7% of cases while positive HER2/neu was founded in 12.5% of patients (Table 1).

Treatment: Three hundred and twenty eight patients underwent modified radical mastectomy**.** Only 4 patients had not received chemotherapy. The most of chemotherapy received patients had received FAC protocol (5-flurouracil, doxorubicin, cyclophosphamide). Thee hundred and twenty two patients had received radiotherapy, out of them 23 patients had received whole breast irradiation, while 8.3% of cases had not received radiotherapy as most of them had T1N0 disease. As 322 patients had positive hormonal receptors, 322 patients had received hormonal treatment, only four of them received only hormonal treatment without chemotherapy while 318 patients had received hormonal treatment following finishing chemotherapy and radiotherapy. Tamoxifen was received for 5 years in 275 patients (78.3%) while aromatase inhibitors were used in 12.8% of cases (Table 2).

Table (2): Treatment received by early breast cancer patients (N=351).

	No.	%			No.	%
Type of surgery				Radiotherapy		
MRM	328	93.4%		No	29	8.3%
Conservative	23	6.6%		Yes	322	91.7%
Chemotherapy				Hormonal treatment		
No	4	1.1%		No	29	8.3%
Yes	347	98.9%		Yes	322	91.7%
Type of chemotherapy				Type of hormonal treatment		
FAC	296	84.3%		Tamoxifen	275	78.3%
FEC	19	5.4%		AI	45	12.8%
CMF	29	8.3%		Other	2	0.6%
Other	3	0.9%				

Recurrence: Locoregional recurrence was recorded in 45 patients (12.8%) while distant metastasis was in 14.2% of cases. Chest wall recurrence was the most common site if locoregional recurrence (8.8%) while recurrence that affect surgery scar was founded in only three patients. Brain was the most common site of distant metastasis, it occurred in 4.8% of cases followed by bone in 14 patients (4%) (Table 3).

Table (3): Recurrence in early breast cancer patients (N=351).

	No.	%			No.	%
Recurrence	95	27.1%		Site of distant metastasis		
LRR	45	12.8%		Bone	14	4%
Distant metastasis	50	14.2%		Liver	8	2.3%
Site of locoregional recurrence				Lung	7	2%
Chest wall	34	8.8%		Brain	17	4.8%
Lymph node	11	3.1%		Contralateral SC LN	2	0.6%
Scar	3	0.9%		Bone & Brain	2	0.6%

LRR: Locoregional recurrence

Effect of clinopathological parameters on events: No significant role was reveled for age as regard survival where 37.2% of cases below 35 years die from breast cancer versus 24.4% of patients above 35 years (p=0.071), while there is a little role for age in determination of recurrence where patients below 35 years had recurrence had a bit more risk for recurrence (39.5%) of versus 25.3% above 35 years (p =0.049). A significant association was founded between grade of tumor and survival as 67.3% of patients with grade III carcinoma die from their breast cancer versus no patients with grade I carcinoma had died (p <0.001),

also high grade of tumor was associated with more recurrence, grade III (67.3%), grade II (21.8%) and grade I (0%), p <0.001. Tumor size was significantly associated with survival where 35.3% of T3 had died versus no patients with T1 tumor had died from breast cancer, also 35.3% of T3 had recurrence. Positive lymph node was associated with more breast cancer related deaths and recurrence, 29.5% and 30.9% respectively. T2N1 disease had similar outcome as T3N0 disease where 34.8% of T2N1 disease had died versus 35.3% in T3N0 disease while 35.3% of T3N0 patients had recurrence in contrast to 36.5% for T2N1 disease. No patient with stage I disease had died or developed recurrence (Table 4).

Table (4): Effect of clinicopathological parameters on events.

Parameters	Total		Survival				Recurrence		
			Alive (n=260)	Died (n=91)	p§		No recurrence (n=256)	Recurrence (n=95)	p§
Age (years)									
≤ 35 years	43		27 (62.8%)	16 (37.2%)	0.071		26 (60.5%)	17 (39.5%)	0.049
> 35 years	308		233(75.6%)	75 (24.4%)			230 (74.7%)	78 (25.3%)	
Grade									
Grade I	24		24 (100%)	0 (0%)	<0.001		24 (100%)	0 (0%)	<0.001
Grade II	275		219 (79.6%)	56 (20.4%)			215 (78.2%)	60 (21.8%)	
Grade III	52		17 (32.7%)	35 (67.3%)			17 (32.7%)	35 (67.3%)	
T									
T1	68		68 (100%)	0 (0%)	<0.001		68 (100%)	0 (0%)	<0.001
T2	266		181 (68%)	85 (32%)			177 (66.5%)	89 (33.5%)	
T3	17		11 (64.7%)	6 (35.3%)			11 (64.7%)	6 (35.3%)	
N									
N0	63		57 (90.5%)	6 (9.5%)	0.001		57 (90.5%)	6 (9.5%)	0.001
N1	288		203 (70.5%)	85 (29.5%)			199 (69.1%)	89 (30.9%)	
TNM classification									
T1N0	24		24 (100%)	0 (0%)	<0.001		24 (100%)	0 (0%)	<0.001
T2No	22		24 (100%)	0 (0%)			24 (100%)	0 (0%)	
T1N1	44		44 (100%)	0 (0%)			44 (100%)	0 (0%)	
T2N1	244		159 (65.2%)	85 (34.8%)			155 (63.5%)	89 (36.5%)	
T3N0	17		11 (64.7%)	6 (35.3%)			11 (64.7%)	6 (35.3%)	
AJCC stage									
Stage I	24		24 (100%)	0 (0%)	0.003		24 (100%)	0 (0%)	0.002
Stage II	327		236 (72.2%)	91 (27.8%)			240 (71.6%)	95 (%)	

Qualitative data are presented as number (%); § Chi-square test; p<0.05 is significant.

Overall survival: table 5 and figure 1 (A – G) show effect of clinicopathological parameters on overall survival. Median survival had not reached yet. The OS at 3, 5, 7, 10 years were 95.1%, 79.5%, 60.6%, 52.4% respectively. Univariate analysis revealed that age was not a significant determinant for survival as 10 years OS in patients below 35 years was 48.3% while 52.7% in patents above 35 years. Grade was a significant independent predictor for survival where 11.1% of grade III had 10 years OS versus 100% of grade I. The 10 years OS for T1 was 100% while T3 was 33.3% (p <0.001). Patients with 1-3 positive axillary lymph node had a significantly lower 10 years OS in comparison to patients with node negative disease (53.3% vs 60%, p =0.008). The T3N0 disease had the lowest 10 years OS among all TNM group (33.3%) versus 100% for T1N0 disease (p =0.001). Patients with AJCC stage I had 100% 10 years OS while Stage II had 49% (p =0.002).

Disease free survival: table 6 and figure 1 (H – N) show effect of clinicopathological parameters on disease free survival. Median disease free survival had not reached yet. The DFS at 3, 5, 7, 10 years were 94.8%, 79.4%, 59.7%, 50.8% respectively. Univariate analysis revealed that age was not a significant determinant for disease free survival as 10 years DFS in patients below 35 years was 46.9% while 51.3% in patents above 35 years. Grade was a significant independent predictor for disease free survival where 15.4% of grade III had 10 years DFS versus 100% of grade I. The 10 years DFS for T1 was 100% while T3 was 33.3% (p <0.001). Patients with 1-3 positive axillary lymph node had a significantly lower 10 years DFS in comparison to patients with node negative disease (51.4% vs 60%, p =0.006). The T3N0 disease had the lowest 10 years DFS among all TNM group (33.3%) versus 100% for T1N0 disease (p <0.001).

Patients with AJCC stage I had 100% 10 years DFS while Stage II had 47.2% (p =0.002).

Table (5): Effect of clinicopathological parameters on overall survival in early breast cancer patients (N=351).

	Total	Deaths No (%)	Median survival (months)	Overall Survival (%)				HR (95%CI)	p§
				3 year	5 year	7 year	10 year		
All patients	351	91 (25.9%)	NR	95.1%	79.5%	60.6%	52.4%	------	------
Age (years)									
≤ 35 year	43	16 (37.2%)	80	88.3%	66.4%	48.3%	48.3%	0.638 (0.339-1.202)	0.089
> 35 year	308	75 (24.4%)	NR	96%	81.3%	62.5%	52.7%		
Grade									
Grade I	24	0 (0%)	NR	100%	100%	100%	100%	------	<0.001
Grade II	275	56 (20.4%)	NR	100%	83.7%	61.1%	58.6%		
Grade III	52	35 (67.3%)	60	67.3%	47.1%	27.5%	11.1%		
T									
T1	68	0 (0%)	NR	100%	100%	100%	100%	------	<0.001
T2	266	85 (32%)	100	93.5%	74.6%	50.7%	49.6%		
T3	17	6 (35.3%)	109	100%	100%	100%	33.3%		
N									
N0	63	6 (9.5%)	NR	100%	100%	100%	60%	2.785 (1.600-4.850)	0.008
N1	288	85 (29.5%)	NR	94.1%	75.8%	54.4%	53.3%		
TNM									
T1N0	24	0 (0%)	NR	100%	100%	100%	100%	------	0.001
T2No	22	0 (0%)	NR	100%	100%	100%	100%		
T1N1	44	0 (0%)	NR	100%	100%	100%	100%		
T2N1	244	85 (34.8%)	80	93%	73%	49.7%	48.6%		
T3N0	17	6 (35.3%)	109	100%	100%	100%	33.3%		
AJCC stage									
Stage I	24	0 (0%)	NR	100%	100%	100%	100%	------	0.002
Stage II	327	91 (27.8%)	120	94.7%	77.7%	57.4%	49%		

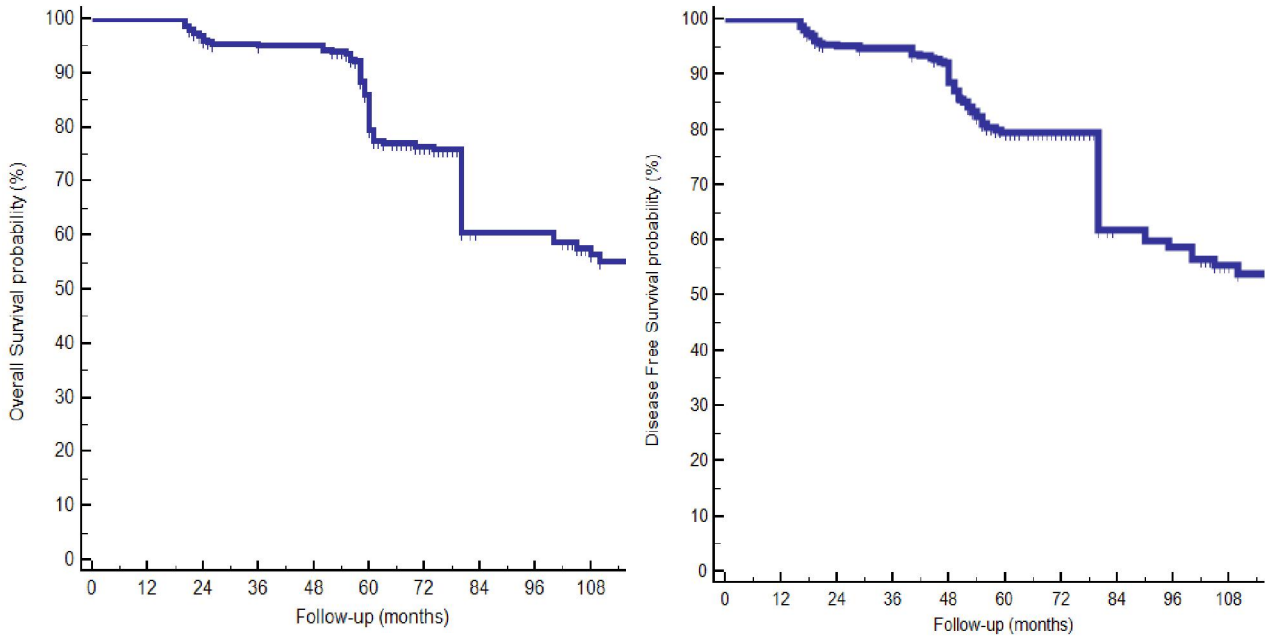
Qualitative data are presented as number(%); NR denote not reached yet; § Log rank test; 95%CI: 95% confidence interval; HR; hazard ratio; p< 0.05 is significant.

Table (6): Effect of clinicopathological parameters on disease free survival (DFS) in early breast cancer patients (N=351).

	Total	Recurrence No (%)	Median DFS (months)	Disease Free Survival (%)				HR (95%CI)	p§
				3 year	5 year	7 year	10 year		
All patients	351	95 (27.1%)	NR	94.8%	79.4%	59.7%	50.8%	------	------
Age (years)									
≤ 35 year	43	17 (39.5%)	100	88.3%	67.8%	52.1%	46.9%	0.666 (0.364-1.219)	0.115
> 35 year	308	78 (25.3%)	NR	95.7%	81%	63.3%	51.3%		
Grade									
Grade I	24	0 (0%)	NR	100%	100%	100%	100%	------	<0.001
Grade II	275	60 (21.8%)	NR	99.6%	85.2%	61.4%	55.4%		
Grade III	52	35 (67.3%)	54	67.3%	38.5%	38.5%	15.4%		
T									
T1	68	0 (0%)	NR	100%	100%	100%	100%	------	<0.001
T2	266	89 (33.5%)	100	93.1%	72.9%	50.2%	45.7%		
T3	17	6 (35.3%)	97.5	100%	100%	100%	33.3%		
N									

	Total	Recurrence No (%)	Median DFS (months)	Disease Free Survival (%)				HR (95%CI)	p§
				3 year	5 year	7 year	10 year		
N0	63	6 (9.5%)	NR	100%	100%	100%	60%	2.925 (1.701-5.030)	0.006
N1	288	89 (30.9%)	NR	93.8%	75.9%	55.6%	51.4%		
TNM									
T1N0	24	0 (0%)	NR	100%	100%	100%	100%	------	<0.001
T2No	22	0 (0%)	NR	100%	100%	100%	100%		
T1N1	44	0 (0%)	NR	100%	100%	100%	100%		
T2N1	244	89 (36.5%)	80	92.6%	71.7%	49.4%	44.9%		
T3N0	17	6 (35.3%)	97.5	100%	100%	100%	33.3%		
AJCC stage									
Stage I	24	0 (0%)	NR	100%	100%	100%	100%	------	0.002
Stage II	327	95 (%)	118	94.4%	77.8%	56.4%	47.2%		

Qualitative data are presented as number (%); NR denote not reached yet; § Log rank test; 95%CI: 95% confidence interval; HR; hazard ratio; p< 0.05 is significant.



(A) **(B)**

Figure (1): Kaplan-Meier survival probability in early breast cancer patients (N=351), (A – G) Overall Survival probability was stratified according to prognostic factors, (H – N) Disease Free Survival probability was stratified according to prognostic factors.

4. Discussion

This is a retrospective study on 351 female patients with early breast cancer with a median follow up duration of about 65 months. The age of the patients ranged between 20 and 78 years, the median age was 50 years and premenopausal women constituted 44.4% of the studied group. These results in agree with other Egyptian studies (23, 24). ***El Mongy et al. (24),*** who reported the age of the patients in their study ranged between 24 and 84 years with the median age was 47 years, with premenopausal constitute 47.9%. In the current study postmenopausal group was 41.6% as compared to 67% in western series (25). History of oral contraceptive pills was recorded in 33.3% of patients. As regard breast feeding, 150 patients had breast feeding of their Offsprings. Relevant family history of breast cancer was revealed in 59 patients (16.8%). In current study 96.3% of patients underwent fine needle aspiration biopsy while in ***El Mongy et al. study*** only 62% of cases underwent FNAB. The most common pathological type was invasive duct carcinoma (81.2%) while invasive lobular carcinoma was found in 14% of patients, these findings is very similar to result of ***El Mongy et al.***, as their study shows that 89% of cases

were invasive duct carcinoma. The most affected quadrant of breast was upper outer quadrant (78.3%) while central tumor was found in 1.7% of cases. The most frequent pathological grade was grade II (78.3%), while grade I carcinoma was found in 24 patients (6.8%), also in ***El Mongy et al. study***, the most frequent grade was grade II (87%) and the rarest was grade I (1.8%).

Tumor size between 2 – <5 cm was found in 266 patients (75.8%), while 19.4% of patients had T1 tumors. The frequency of T1 in ***El Mongy et al. study*** was (7%). T2 was 51% and T3 was 33%, these data are similar to that reported by El Gantiry (23), who revised 1208 premenopausal women treated between 1980 and 1989 and reported 4%, 45% and 38.5% in T1, T2 and T3 respectively. The frequency of T1 tumor is much lower and the frequency of T2 is higher in our studies than reported in western series (26). Sixty three patients (17.9%) have negative axillary lymph nodes, while the majority of patients had positive axillary lymph node (82.1%). The incidence of negative lymph nodes in the present study is higher than the 13% reported by ***Elgantiry et al.*** (23) while ***El Mongy et al.*** reported 27.9% of cases had node negative disease. In Western countries the incidence of pathological negative lymph nodes is higher (50%) (27). According TNM classification, 69.5% of cases had T2N1 disease, while 17 patients (4.8%) had T3N0 disease. Twenty four patients were AJCC stage I while 93.2% of cases were stage II. Positive hormonal receptor either estrogen receptor or progesterone receptor or both of them was founded in 91.7% of cases while ***El Mongy et al.*** reported 60.3% of cases had positive estrogen receptor and 59.7% had positive progesterone receptor. Positive HER2/neu was founded in 12.5% of patients. In current study Three hundred and twenty eight patients (93.4%) underwent modified radical mastectomy while in ***El Mongy et al.*** **study,** 86.3% underwent MRM.

Only 4 patients had not received chemotherapy in present series. The most of chemotherapy received patients had received FAC protocol, while ***El Mongy et al.*** reported that 198 had not received chemotherapy and the FAC was also the most used chemotherapy protocol. In the current study thee hundred and twenty two patients (91.7%) had received radiotherapy, out of them 23 patients (6.6%) had received whole breast irradiation, while 8.3% of cases had not received radiotherapy as most of them had T1N0 disease, these records is very similar to ***El Mongy et al.*** that reported that 92% of patients had received radiotherapy, 13.7% out of them had received whole breast irradiation and 8% of cases had not received radiotherapy. As 322 patients had positive hormonal receptors, 322 patients had received hormonal treatment, only four of them received only hormonal treatment without chemotherapy while 318 patients had received hormonal treatment following finishing chemotherapy and radiotherapy. Tamoxifen was received for 5 years in 275 patients (78.3%) while aromatase inhibitors were used in 12.8% of cases.

The 5 and 10 year overall survival for the whole studied group was 79.5% and 52.4% while the 5 and 10 year disease free survival was 79.4% and 50.8% respectively. In the present study, only 45 patients of 351 developed locoregional relapse (12.8%) while ***El Mongy et al.*** reported 5 year overall survival for the whole studied group was 91.4%, 5 year relapse free survival was 91.4% and 23 patients (2.3%) had locoregional relapse. In current study, patients younger than 35 years showed non signifcantly lower OS at 5 and 10 years than older patients (66.4% vs 81.3% and 48.3% vs 52.7%) respectively, also non signifcantly lower DFS at 5 and 10 years than older patients (67.8% vs 81% and 46.9% vs 51.3%) respectively. These results are not in agreement with the results reported in Western series in which younger patients had a higher rate of lumpectomy failure as well as a higher rate of chest wall failure after mastectomy than do older patients (28). Both in the present study and in a western series that studied 1831 patients showed a very strong correlation between grade and prognosis, patients with grade I and II tumors have a signifcantly better survival than those with grade III tumors (p =0.0001) (29). In present study the 10 years OS for T1 was 100% while T3 was 33.3% (p<0.001), patients with 1-3 positive axillary lymph node had a significantly lower 10 years OS in comparison to patients with node negative disease (53.3% vs 60%, p =0.008), the T3N0 disease had the lowest 10 years OS among all TNM group (33.3%) versus 100% for T1N0 disease (p =0.001) and patients with AJCC stage I had 100% 10 years OS while Stage II had 49% (p =0.002). Patients with AJCC stage I had 100% 10 years DFS while Stage II had 47.2% (p =0.002). This was in concordance with the results obtained in ***Clarke et al***. and ***Nazmy et al***. studies (30-31), who reported local recurrence at 5 years in breast cancer patients treated by conservative surgery and irradiation therapy were 6% in T1 and 14% in T2, the risk of recurrence increases linearly with tumor size for patients with fewer than four lymph nodes involved with metastases.

Conclusions

The most important prognostic factor for overall survival and relapse free survival are positive LNs, tumor size, T3 and pathological grade.

Corresponding Author:
Name: Mostafa Toam, MD,

Address: Department of Clinical Oncology and Nuclear medicine, Faculty of Medicine Zagazig University, Egypt.
E.mail: *m_toam@yahoo.com*

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