Original Article

Comparison of satisfactions from mastectomy and Lump Ectome in breast cancer patients

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ABSTRACT

Introduction: The prevalence of breast cancer among women in compare to other types of cancers in all over the world and in Iran is high. Mastectomy surgery is one of the common treatments for these patients. Another method, which is less invasive, is Lumpectomy. This study comprised the satisfaction of patients under two types of surgery; Mastectomy and Lumpectomy. **Materials and Methods:** In this cross-sectional study, two types of patients which had either, Mastectomy or Lumpectomy, were studied. **Results:** From 119 patients which studied here, 80 patients (66.7%) were treated by mastectomy and 39 patients (32.5%) were treated under lumpectomy. Two groups had not significant differences in duration between diagnostic and surgery, the number of lymph nodes involved and the number of lymph nodes removed. Lumpectomy patients had higher pain and numbness in 24 h, 1 week after surgery and at the time of study than the other group. The observed difference was significant ($P = 0.043$). **Discussion:** It is implied in previous studies that patients under lumpectomy had more satisfaction than patients under mastectomy. However, no differences were observed in quality-of-life between the two groups in some other studies. The differences between various studies might be for the sake of cultural variety and time interval between surgery and filling questionnaire.

Key words: Breast cancer, lumpectomy, mastectomy, satisfaction

INTRODUCTION

Cancer affects all family members.[1] Breast cancer is one of the most common types of cancers among women in most countries as well as in Iran.[1-4] In America, breast cancer contains almost one-fourth of all kinds of cancers.[5] Also, 25% of all kind of cancers in Iranian women is breast cancer.[6,7] Annually, 6000 new cases of breast cancer are diagnosed in Iran. In comparison, Iranian women are at risk of breast cancer one decade earlier than other women all over the word. Almost 70% of them are diagnosed in advanced stage.[8,9]

Nowadays, breast cancer treatment is improved by increase the early diagnostic tools.[2,6] Mastectomy surgery is one of the most common methods of breast cancer treatment. Many studied had shown that the loss of the breast have a major psychological disorder in women and cause depression and anxiety in women.[1,2] Loss of the breast can produce disability feeling; it also can affect body image and may decrease the attractiveness and sexual performance, which can cause mood disorders.[9,10]

Usually, breast cancer treatments were focused on length of life and less concern to treatment outcome on other aspects

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of patient's life. However, these days quality-of-life is become more important and regards as one of the disease outcomes. It evaluates as one of the affect indices of treatment.[6,7] According to these problems, breast cancer treatments are lead to methods, which are less invasive such as adjusted radical mastectomy and breast conserving surgery (BCS) or lumpectomy.[3,4,11]

Lumpectomy or breast conserving is a type of surgery for breast cancer patients.[11] Type, size and allocation of tumor are important factors, which are noted for surgery decision. The other factor that will be considered by the physician is breast size. In decision making to choose either mastectomy or lumpectomy, mental-psychiatric status, life-style and patient preferences should be considered.[5]

The two surgery methods, mastectomy and lumpectomy have the same result in stage I and II disease.[3,4] On the other hand, patients were treated by lumpectomy are less depressed and have higher quality of life;[4] while BCS does not have any adverse effect on disease free survival and metastasis.[3,4] Based on previous studies, the two types of surgery had the same rate of disease free survival and significant difference does not observed.

Mousavi-naini *et al*., describe that 1 year survival for two surgery methods was 100%, 3 year survival was 93% and 94% for mastectomy and lumpectomy respectively.[4] Often women in the first stages of diagnostic are the best candidate of BCS.[4,8] Nowadays in specific situations, BCS, in which only part of breast tissue is removed, become an acceptable and standardized method for breast cancer treatment. But using this method is very limited in Iran. According to Najafi *et al*.,[3] only 19% of Iranian surgeons suggest BCS to their patients. Uncertainty about lumpectomy results (46%), lack of confidence to radiotherapy services (32%) and the probability that patient doesn't complete the radiotherapy (32%) are the most common reasons that make Iranian physicians not choosing BCS method. It seems limitation of using BCS in Iran consist of many factors such as existing facilities, cultural and etc.[3]

One of the reasons of doing breast conserving therapy is better body image.[10,12] Another advantage is that patients can adjust better with their disease and have more satisfaction from their sexual life. Their spouse may adjust better with their disease.[12,13] Both methods can produce limitation on movements of arm and shoulder.[14] The number of lymph nodes involved, overweight, type of surgery and radiotherapy are risk factors for movement disorders. Freitas-Silva *et al*.,[14] describe that movement disorders are more likely in patients who have undergone mastectomy rather than lumpectomy patients. However, the results in this domain are controversy.

Prevalence of mastectomy as common treatment for breast cancer in Iran, and lack of attention to its psychological and social outcomes, makes the assessment of quality of life in Iranian patients more important.[9] According to our investigation, in Iranian papers, we didn't find any study which compare satisfactions of patients with mastectomy and lumpectomy. Therefore, we manage this survey to evaluate satisfaction of breast cancer patients, which undergone mastectomy or lumpectomy surgery and compare them.

MATERIALS AND METHODS

In this cross-sectional study, breast cancer patient that at least 6 months had passed from their surgery called to come to Cancer Research Center. Decision about the type of surgery was carried out by physicians, patients and their family and this study did not have any role in it. At first, name and telephone number of each patient was extracted from her records in Cancer Research Center. After that, they were asked to replay the questionnaire, if they would like to participate in the study. Questionnaires were completed by experts in the Cancer Research Center. We had computed reliability scale for questions about information before surgery, patient tendency for type of surgery and questions on spiritual and spouse satisfaction. Cronbach's Alpha was 0.71 for these questions.

To investigate patient's satisfaction from their treatment, patients were asked to complete the questionnaire, which had design for this reason. The questionnaire had many variables such as age, marriage status, age at marriage time, parity, age at the first pregnancy, type of surgery, tumor size, number of lymph nodes involved and number of lymph nodes removed. Furthermore, it contains some information about patient's awareness, patient's tendency about treatment, and pain and numbness magnitude in the first 24 h, 1 week after surgery and at the time of filling questionnaire.

Furthermore, some questions such as their willingness to attend in women parties and pool, sexual satisfaction and spouse satisfaction were asked. We used visual scale to measure pain and numbness status on 119 breast cancer patients who were referred to the Cancer Research Center of Isfahan.

Statistical methods

We used IBM SPSS 18(Statistical Package for the Social Sciences), to analyze this data. In order to compare qualitative variables between two surgery methods, we used crosstab and Chi-square test. Pain and numbness measured from 1 to 10 by visual scale and compared between two surgery methods by independent *t*-test. Also in order to compare their attitudes about two surgery methods some questions were combined and define new variables such as total satisfaction, total pain, total numbness, mental status and spouse satisfaction. To compare these variables, independent *t*-test was used.

RESULTS

From 119 patients were investigated, 80 (66.7%) and 39 (32.5%) patients were treated by mastectomy and lumpectomy respectively. Mean (standard deviation) of age was 50.2 (8.9) and 46.5 (11.7) in mastectomy and lumpectomy respectively. The mean and standard deviation

of quantitative variables by group treatments and *P* values from independent *t*-test are shown in Table 1.

It can be seen from Table 1, mean age in lumpectomy group was higher than mastectomy group. However, this difference was not significant ($P = 0.077$).

Table 2 implies the frequencies and percentages of qualitative variables and the *P* values from Chi-square test. As it can be seen from Table 2, 97.5% of patients in mastectomy group and 87.2% of patients in lumpectomy group were married. The difference between two groups was significant ($P = 0.025$). Mastectomy patients compared with patients in lumpectomy group had less information about surgical treatments before their surgery. However, the observed difference was not significant. Patients in lumpectomy group had fewer problems in the pool and this difference was significant ($P = 0.002$).

Table 1: Average and standard deviation of demographic information

Characteristic	Mastectomy		Lumpectomy		*P* value
	Mean	SD	Mean	SD	
Age	50.167	8.9187	46.649	11.684	0.077
Period until diagnostic	10.48	19.7	9.0	16.55	0.737
Lymph node involved no.	5.11	5.21	8.0	8.37	0.321
Lymph node removed no.	11.38	5.69	12.74	7.06	0.45
Age at marriage	18.83	4.9	18.26	5.22	0.583
Age at first delivery	20.89	5.84	20.59	5.24	0.804

P values are provided by independent *t* test. As it can be seen, two treatment groups didn't have significant difference with each other.
*Significant level was 0.05. SD = Standard deviation

Table 2: Frequency and percent of qualitative variables by treatment group

	Count (percent)		*P* value
	Mastectomy	Lumpectomy	
Marriage status			
Married	78 (97.5)	34 (87.2)	0.037*
Single	2 (2.5)	5 (12.8)	
Information before surgery from treatment			
No information	19 (26.4)	6 (16.7)	0.054*
Mild information	21 (29.2)	20 (55.6)	
Enough information	30 (41.7)	10 (27.8)	
Too information	2 (2.8)	0 (0)	
In the pool			
No problem	18 (27.7)	17 (54.8)	0.002*
Mild problem	12 (18.5)	10 (32.2)	
Sever problem	16 (24.6)	3 (9.7)	
Very much sever	19 (29.9)	1 (3.2)	
Surgery place status (lack of breast)			
No problem	14 (18.7)	15 (53.6)	0.004*
Mild problem	30 (40.0)	9 (32.1)	
Sever problem	24 (32.0)	3 (10.7)	
Very much sever	7 (9.3)	1 (3.6)	

**P* value for marriage status provided by Fisher exact test. **P* values are provided by Chi-square test. Significant level was 0.05

In comparison between patients in two groups, we observed that lumpectomy group had fewer problems with the place of surgery. In this study, patients were investigated for being in community and women parties.

The question "Do you choose the same surgical method, if the physician had told that the two methods have the same results?" were asked from patients. In lumpectomy group, 88.6% of patients had positive answer to this question and just 11.4% of them choose mastectomy surgery. In contrast, only 45.5% of patients in mastectomy group had positive answer to this question. The observed difference was statistically significant ($P < 0.001$).

Based on the results of this study patients in lumpectomy surgery group had more satisfaction in comparison with mastectomy group ($P = 0.035$). Two groups didn't have a significant difference in pain and numbness status. Mental status was significantly better in lumpectomy group ($P = 0.01$). Spouse satisfaction was better in lumpectomy group, but the difference was not statistically significant.

Mean and standard deviation of these created variables are shown in Table 3. As these variables are made by the combination of some questions, minimum and maximum of each variable are listed in this table.

DISCUSSION

BCS is an appropriate treatment in the first phase of disease. BCS can affect the patient's satisfaction and mental status. But according to previous studies, especially Iranian physicians are less tends to apply this method.[3] Based on the results of this study, only 33% of breast cancer patients had treated by lumpectomy.

The question "Do you choose the same surgical method, if the physician had told that the two methods have the same results?" were asked from patients. Only 11.4% patients in BCS group tend to choose mastectomy surgery. This rate is very close to the rate in the study by Freitas-Silva *et al.*,[14] In their study, 12% of BCS patients choose other treatment method.

In this study, the prevalence of breast conserving therapy was 32.5%, whereas in the study by Mousavi-naini *et al.*, 45% of

Table 3: Total satisfaction, pain and mental status by two surgery methods

Characteristic	(Min, max)	Mastectomy	Lumpectomy	*P* value
Total satisfaction	(1, 6)	3.13±1.27	3.59±0.84	0.035*
Total pain	(0, 30)	12.62±7.84	15.21±8.19	0.108
Total numbness	(0, 30)	13.66±8.19	14.27±8.07	0.725
Mental status	(4, 16)	8.37±3.05	6.45±2.24	0.01*
Spouse satisfaction	(2, 8)	3.82±1.87	3.19±1.51	0.098

Values are shown as (mean±SD). *Significant level was 0.05

breast cancer patients were treated by BCS.[4] The mean age of patients was 50.2 and 46.6 in mastectomy and lumpectomy group respectively. The observed difference was not statistically significant. In the study by Mousavi-naini *et al*., mean age was 49.4 and 47.2 in mastectomy and lumpectomy group respectively.[4]

In the present study, the difference between the numbers of lymph nodes involved was not significant in the two treatment groups while, this number was significantly higher in mastectomy group patients.[4] The observed difference between study results may be due to this fact that, only breast cancer patient in stage I and II of disease were entered to Mousavi-naini *et al*., study. However in the present study, all breast cancer patients regardless of disease severity were entered.

Based on the results of this study, patients undergone BCS had higher satisfaction from their treatment. Furthermore, their mental status was significantly better in comparison with mastectomy group. These results were aligned with the results in the study by Freitas-Silva *et al*.[14]

According to the result of Ager and colleagues, patients whose undergone BCS were less depressed.[15] They compared BCS and mastectomy patients from various aspects such as anxiety, mental status and spouse satisfaction, after adjustment for age and the time of surgery. All these patients had husband.[12] In our study, the husbands of patients in lumpectomy group had higher satisfaction compared with patients in mastectomy group.

Many studies have shown that patients undergone mastectomy, compared with lumpectomy patients had lower satisfaction from their treatment while some studies did not. Frost *et al*., believe that this result may due to personal differences. Since, some women have less attention to their breasts and body image.[16] On the other hand, the observed differences between this study with other studies, especially foreign ones, may due to differences between cultures and religion in Iran society.

Suggestions

In this study, the severity status of illness did not considered. Furthermore, we didn't have any information about education and occupation of participants. Movement limitation in two surgery groups did not take in to account; while movement limitation can affects patient satisfaction from type of surgery treatment.

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