Turkish Journal of Geriatrics
2017;20 (3):157-163

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Received: 09/05/2017
Accepted: 31/08/2017

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RESEARCH

BREAST CANCER IN ELDERLY WOMEN: EFFECTS OF SCREENING PROGRAMS AND CHOICE OF SURGICAL METHOD

Abstract

Introduction: Although breast cancer is more common in elderly women > 65 years, its diagnosis is delayed; thus, the surgical procedure is affected. In this study, we aimed to investigate the status of the screening program, its adequacy in early diagnosis, and its effect on the choice of surgical method.

Materials and Method: In total, 124 old women with breast cancer who were operated at our clinic in the last 3 years were divided into groups A, B, C, and D according to their age (65–70, 70–75, 75–80 and >80 years). The patients were retrospectively examined in terms of diagnostic method, tumor size, and surgical method.

Results: The mean age of the patients was 71.25 (65–94) years. There were 63 patients in group A, 31 patients in group B, 17 patients in group C, and 13 patients in group D. Thirty-four (54%) patients in group A, 9 (29%) patients in group B, 3 (18%) patients in group C, and 1 (8%) patient in group D were diagnosed using mammography and the others were diagnosed based on clinical symptoms. The median tumor size was 2.4, 3.2, 3.3, and 4 cm in groups A, B, C, and D, respectively. Breast-conserving surgery was performed on 50 (79%) patients in group A, 18 (58%) patients in group B, 11 (64%) patients in group C, and 2 (15%) patients in group D, and mastectomy was performed on the remaining patients. Data were compared with the independent t-test (one simple); differences between the groups were found to be significant for tumor size (p >0.02) and surgical method (p= 0.029).

Conclusion: The tumor size increased with increasing age and the rate of breast-conserving surgery decreased in our patients. Radiological screening has a decisive place in early diagnosis of breast cancer. Screening should continue in women whose expected length of life is 10 years. In our country, the life expectancy is 86 years for 65-year-old women, and the existing program, which is terminated at 70 years, is considered to be inadequate. According to literature and our data, it should be continued until 75 years so that early diagnosis can be possible in the elderly and breast-conserving surgery can be performed.

Key Words: Aged; Breast Neoplasm; Mass Screening; Mastectomy, Segmental; Mastectomy

ARAŞTIRMA

YAŞLI KADINLARDA MEME KANSERİ: TARAMA PROGRAMLARININ ETKİLERİ VE CERRAHİ YÖNTEMİN SEÇİMİ

Öz

Giriş: Yaşam süresi uzadıkça 65 yaş üstü (yaşlı) kadınlarda meme kanseri daha sık ancak geç tanı almakta ve uygulanan cerrahi etkilenmektedir. Bu çalışmada tarama programının durumunu, erken tanı için yeterliliğini ve cerrahi yöntem seçimine etkisini araştırmayı amaçladık.

Gereç ve Yöntem: Kliniğimizde son üç senede ameliyat olan meme kanserli 124 yaşlı kadın, yaşa göre (65-70, 70-75, 75-80 ve 80 üstü) A, B, C, D gruplarına ayrıldı. Olgular retrospektif olarak tanı alma şekli, tümör boyutu ve cerrahi yöntem bakımından irdelendi

Bulgular: Yaş ortalaması 71,25 (65-94) idi, A grubunda 63, B de 31, C de 17 ve D de 13 olgu yer aldı. A grubunda 34 (%54), B: 9 (%29), C: 3(%18) ve D de 1olgu (%8) mamografi ile, diğerleri ise klinik semptom ile tanı aldı. Ortanca tümör boyu A grubunda 2,4, B de 3,2, C de 3,3 ve D de 4 cm idi. A grubunda 50 (%79) B grubunda18 (%58), C grubunda 11 (%64) ve D grubunda 2 (%15) olguya meme koruyucu cerrahi, diğerlerine mastektomi yapıldı. Veriler bağımsız t (one simple) testi ile karşılaştırıldı, gruplar arasında tümör boyutu (p:0,002) ve cerrahi yöntem için (p:0,029) fark anlamlı bulundu.

Sonuç: Olgularımızda yaş arttıkça tümör çapı artmış, meme koruyucu cerrahi oranı azalmıştır. Meme kanserinin erken tanısı için radyolojik tarama belirleyici yere sahiptir. Beklenen yaşam süresi 10 yıl olan kadınlarda tarama devam etmelidir. Ülkemizde 65 yaşına gelmiş kadınlarda yaşam süresi 85 olarak hesaplanmaktadır ve 70 yaşında sonlanan mevcut program yetersiz görünmektedir, literatüre ve verilerimize göre 75 yaşına dek sürmelidir¸ böylece yaşlılarda erken evrede tanı mümkün olur ve uygulanabilir

Anahtar Sözcükler: Yaşlı; Meme kanseri; Kitle taraması; Mastektomi, Segmental mastektomi

INTRODUCTION

Breast cancer is the most common type of cancer in women, both in our country and in the world, and is also an important cause of death. Breast cancer with heterogeneous characteristics is more common in elderly patients and has a better prognosis than in patients diagnosed at a younger age. Mastectomies are more common in elderly patients with breast cancer than in younger ones, whereas breast-conserving surgery (BCS) and radiotherapy (RT) are also used as standard treatment in appropriate cases (1,2).

As a surgical method, BCS has similarly successful results as mastectomy in terms of disease-free and total survival and is even more advantageous with respect to the quality of life. Late diagnosis in elderly women is difficult to treat, and because tolerance to adjuvant treatments is low in some individuals, it can lead to incomplete chemotherapy, particularly due to the toxic effects of chemotherapy, thus negatively affecting the length and quality of life (3). Radiological screening allows early diagnosis of breast cancer. When breast cancer is diagnosed at an early stage in older women, BCS can be performed independent of age by better controlling the accompanying diseases (2,3).

In this study, we aimed to investigate the first diagnostic method in women > 65 years (aged), their participation in screening and performed surgical technique, and to investigate whether screening and surgical treatment application is compatible with an increase in life span.

MATERIALS AND METHOD

In total, 124 women > 65 years who underwent breast cancer treatment at our clinic between January 2014 and January 2017 were included in this study. The patients were divided into four groups. Group A, B, C, and D consisted of patients between 65 and 69 years, between 70 and 74 years, between 75 and 79 years, and > 80 years, respectively. The patients were analyzed and retrospectively compared with respect to age, tumor size, and surgical method. The relationship between different types of surgery performed according to age and tumor size was investigated. The effect of terminating screening at 70 years on early diagnosis and therefore, the choice of surgical method was questioned.

RESULTS

The mean age was 71.25 (65–94) years. There were 63 patients in group A, 31 in group B, 17 in group C, and 13 patients in group D. The mean age of patients in groups A, B, C, and D was 66.8, 72, 76.7, and 84 years. The tumor was found radiologically in 47 patients (38.7%) and through physical examination in the remaining patients (61.3%) where a complaint of pain and accompanying palpable swelling were present.

The number of patients diagnosed by screening mammography was 34 (54%) in group A, 9 (29%) in group B, 3 (18%) in group C, and 1 (8%) in group D. According to the TNM classification, the tumor

size was T1 and T2 with a mean diameter of 2.4 cm in group A, T2 with a mean diameter of 3.2 cm in group B, T2 with a mean diameter of 3.3 cm in group C, and T2 with a mean diameter of 4 cm in group D (Graphic 1I). The treatment plan for all patients has been planned since diagnosis by a multidisciplinary breast council. The treatment was started with neoadjuvant chemotherapy (NAC) in eight patients in group A, four patients in group B, and two patients in group C, and BCS was performed by marking tumors before NAC in appropriate patients. Although BCS was performed in 50 (79%) of the 63 patients in group A, 18 (58%) of the 31 patients in group B, 11 (64%) of the 17 patients in group C, and 3 (15%) of 13 patients in group D, mastectomy was performed in the remaining 13 (21%) patients in group A, 13 (42%) patients in group B, and 13 (35%) patients in group C and 7 (%54) patients underwent mastectomy in group D and 4 women underwent hormone therapy

(HT) after removal of the tumor only (Graphic 2-3). When data were compared by the independent t-test (one simple test), the difference between the groups was found to be significant in terms of tumor size (p= 0.002) and BCS (p= 0.029). (Table1).

DISCUSSION

The population of the world is getting older and the incidence of breast cancer is increasing with age. In countries with a life span longer than 80 years, the incidence of breast cancer in the 75–79 age group has been also increasing. It is reported that the elderly (≥80 years) group has been also rapidly expanding because of important developments in the field of public health (2). However, it is not known whether mammography screening helps women aged ≥ 75 years live longer because there are no sufficient randomized controlled trials in this area. According to our classical knowledge, although breast cancer is observed most frequently in patients of approximately 61 years, in the recent publications, it has been reported that an increasing number of breast cancers is diagnosed in patients at later ages and the second peak point of diagnosis is approximately 74 years (4). Treatment of older patients may be different because of additional health problems. When the treatment is planned, functions of the person and the effects of the treatment on the quality of life should be considered. There are very few studies and data available in evidence-based guidelines for the elderly with breast cancers on screening as well as treatment. This can reduce the likelihood of early diagnosis. On the other hand, there are some difficulties in treatment. Available data on the elderly are insufficient for estimating the likelihood of toxicity for those receiving systemic therapy; existing data include only the functional status, additional illnesses, social support, nutritional status, and psychological status. Physicians who aim to overcome this problem may be able to treat with locoregional and minimally invasive options only by diagnosing at an early stage (4).

Early diagnosis of cancer by mammography screening can affect the likelihood of death for 10 years. In older patients, the sensitivity of mammography increases. If breast cancer is detected at an early stage by screening, it follows a good course and is less costly to treat, considering the fact that it will save money on chemotherapy (CT) and metastasis (5). Studies show that in patients > 70 years, screening will eliminate the probability of death in 10 years in 1-2 of 1000 women (5,6).

There may also be some problems with the widespread use of mammography. Possible problems, such as excessive biopsy, as well as concerns and unnecessary costs can be overcome with individual approaches and experienced radiologists. If there is a life expectancy of less than 10 years, screening is not recommended (5). Mammographic modeling studies in the literature have revealed that breast cancer screening until 75 years could reduce breast cancer mortality. Many guidelines suggest that the screening should continue until 75 years, and it is reported that depending on the person, it can be continued throughout their life (5,6).

In daily practice, the number of patients > 70 years has been increasing. There are publications reporting that half of the patient with breast cancer are 65 years old and 30% are > 70 years old (6,7). Van der Walde et al found that the incidence of breast cancer in the age range of 74–79 years increased; 474 of the 100,000 women were diagnosed with breast cancer and 100 of them had died. They reported that in 2012, 1.5 million older patients with breast cancer (870,000) were women > 75 years (8).

The life span in our country has also prolonged. Generally, women live longer than men. According to the Turkish Statistical Institute (TURKSTAT) 2014 report, life expectancy at birth, which was 68.8 years in 1994, increased by 7.5 years in 19 years and increased to 76.3 years in 2013 (9). According to 2016 data, the overall life span in Turkey is 78 years; 75.3 years for men and 80.7 years for women.

According to the integrated database 2014 data, age-specific rates of breast cancer in women in our country are at the highest level in the age range of 60–64 years. It is observed that it continues at this speed at the age range of 65–69 years, reaches the highest point again in the age range of 70–74 years, remains in the same level in the age range of 74–79 years, and gradually becomes less diagnosed at later ages (Figure 1). The difference between genders at birth is 5.4 years, with the life expectancy being higher in women, and the life expectancy over 65 years gradually increases. It is calculated that women who reach 65 years in our country will live an average 19.4 years, i.e., till 85 years. According to cancer statistics, 15% of women with a diagnosis of breast cancer in our country are women > 70 years (9). It is inevitable that this number increases with the increasing life span. Currently, screening for breast cancer is performed every 2 years in patients between 50 and 70 years, which results in the loss of opportunity for early diagnosis at ≥70 years (Table 2).

In the series we presented, the average tumor diameter was T1 with an average of 2 cm in group A, while there were no T1 tumors in group B, C, and D. A total of 38% patients were detected by radiological screening. Although more than half of the patients (58%) were diagnosed by mammography in group A, it was observed that mammography was performed in 30% patients in group B, 22% patients in group C, and only in 1 patient (8%) in group D which included patients > 80 years. The remaining patients were diagnosed because of palpable mass. When choosing a breast surgery method, the opportunity for performing BCS in patients with T2-T3 has been diminishing, and RT and CT applications may be a deterrent. When data were analyzed, the fact that the tumor diameter in group A was smaller than that in other groups was thought to be associated with mammographic screening, which is currently performed although not adequately and widespread, and the fact that the tumor size was larger in groups B, C, and D was associated with the fact that patients requested examination only after they palpated the tumor themselves. Therefore, it is important to diagnose breast cancer, which follows a good and slow course in the early stages, by screening in the elderly. The current screening program should be continued until 75 years, given that the life expectancy has reached 85 years in women in our country.

In a study planned to suggest proposals to health insurance providers, Enger SM et al studied a group of 1859 elderly women with breast cancer in four separate age groups in terms of tumor stage, additional health problems, and whether they received standard treatment and reached the following conclusions. Age is an independent risk factor. According to the Charlson Comorbidity Index, 70% patients diagnosed at early stage have good prognostic features and a low recurrence score. Mastectomy and BCS are performed almost equally as surgical methods, and the superiority of mastectomy is not revealed. As a result of this study, treatment options and outcomes were determined to be associated with age, general condition, and stage. It has been shown that age alone is not a contraindication in the choice of the surgical method (10).

In elderly patients, there may be additional health problems and in those ≥80 years, this situation becomes more apparent. In patients diagnosed at advanced ages and stages, CT is not preferred because of its toxic effects and as standard protocols cannot be used, and the need for CT in the early stage is minimal (10). Given the fact that the results of adjuvant HT and RT are almost similar, it would not be correct to avoid BCS because of possible additional disease in elderly patients. According to the results of studies involving extensive case series, it has been argued that majority of older patients with breast cancers may have undergone unnecessary CT and/or RT (11-13). In selected patients, RT itself, its duration, and dose are studied separately and RT studies show that although there may be some benefits for

the patients between 70 and79 years, RT does not provide any additional benefit in older patients (11).

Mastectomy is a traumatic procedure for every woman with breast cancer. According to the EORTC 10850 clinical trial, there is no difference between total and disease-free survival between tumorectomy and modified radical mastectomy, and BCS independently provides the benefit expected from surgery (11). In early stages, BCS and RT can be used in patients of all age groups using personalized techniques. RT can be sufficient in a shorter time because of the new technology; it can be partially performed in some patients and can be provided as a single-dose intraoperative RT (IORT) in some others (11,12). Studies on adjuvant therapy in older women showed that a combination of tumorectomy+tamoxifen achieves equivalent results as BCS + RT in terms of time to distant progression (12,13). In a study, patients who had undergone BCS without RT were followed up for 10 years and local recurrence rates in elderly women with early breast cancer was reported to be low enough to be neglected, i.e., it was reported that mastectomy may not be necessary even if RT had not been performed. Considering possible additional diseases in elderly women, short-term and limited RT application was shown to be effective. In these cases, it is understood that mastectomy does not provide better survival. IORT can be performed in some selected patients who underwent BCS; therefore, adequate and effective treatment is provided in a short time (13).

In this study, the rate of BCS performed in patients was found to be inversely proportional to tumor diameter and age. In group A, patients with T1 were more frequent and the BCS ratio was 79%; in group B, patients with T2 were more frequent and the BCS ratio was 58%; in group C, patients with T2 were more frequent and the BCS ratio was 65%; and in group D, patients with T2 were more frequent with an average tumor diameter of 4 cm and BCS ratio was 15% , in groups B and C, the tumor size was approximately equal to 3.2 and 3.3 cm, respectively, but more patients in group C underwent BCS (Graphic 3). Additional health problems and personal circumstances (living alone and away from the center and reluctance to undergo RT) could be effective in this situation, and it was concluded that age alone was not the factor. In group C, two patients had a lesser chance of undergoing BCS because of breast-tumor ratio during the initial diagnosis; therefore, after NAC regression was determined, BCS+RT were administered. Furthermore, in group A, eight patients received NAC and six patients received intraoperative electron RT (IOERT); in group B, four patients received NAC and three patients received IOERT. In these patients, we did not encounter any age-related problems.

In older women who choose mastectomy to avoid adjuvant treatment or refused to undergo surgery, HT may be considered as an option alone or in combination with BCS, but the case should be chosen very carefully (14). It has been shown that HT, instead of RT, yields equivalent results in estrogen receptor (ER)-positive patients after BCS (15,16). This treatment option may also increase surgeons' and patients' choice of BCS. Endocrine therapy reduces the risk of ipsilateral or contralateral breast tumor recurrence in women with ER-positive breast cancer who are not suitable for surgery or refuse to undergo surgery. It can also be a treatment option in selected low-risk elderly patients. Although it is unlikely to be performed postoperatively after BCS, the likelihood of recurrence in appropriate patients who underwent HT alone is negligible (16,17). In our series, we used HT after excisional biopsy under local anesthesia in a total of four patients in group D, two patients who did not wish to undergo mastectomy and two patients who could not receive anesthesia because of additional health problems. The mean follow-up for our patients was

19 (3–38) months. During this time, no deaths were detected because of breast cancer, but making an interpretation based on this data would not be proper or sufficient.

In conclusıon, the number of aging population in our country as well as in the world has been increasing and life span is prolonged particularly in women. Breast cancer, which is a major public health problem, is also observed more frequently and is diagnosed relatively late in the elderly.

In the present study, the form of diagnosis and choice of surgery in the elderly with breast cancer were investigated and it was observed that the tumor diameter increases and the rate of early diagnosis and BCS decreases with increasing age. The disease has a better prognosis in patients who are diagnosed at an early stage, and BCS as a surgical method for the elderly with breast cancer was shown to provide advantages compared with mastectomy in terms of overall and disease-free survival.

The life expectancy of a 65-year-old healthy woman in our country is estimated to be >19 years, i.e., the life span has reached 85 years. Early diagnosis of breast cancer can only be achieved with regular radiological screening and allows early diagnosis for the next 10 years; thus, more successful treatment with minimally invasive methods, i.e., it provides a significant gain in total. According to this data, the screening program in our country, which is currently planned until 70 years of age, appears to be insufficient and should be continued until the age of 75 years. In the light of our current knowledge, the choice of surgical method and adjuvant treatment planning in elderly patients with breast cancer should be based on the overall situation of the patients rather than age alone. Taking into consideration the increase in the life span and advancements in the health conditions, personalized, current, and standardized treatment should be planned for patients in all age groups. BCS as a surgical method for treatment of breast cancer can be used more safely and independent of the age of the patient.

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