

HOW THE QUALITY OF SURGICAL TREATMENT OF BREAST CANCER IS INCREASED IN TURKEY?

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Breast cancer is the most common cancer in women, accounting for 23% of all female cancers around the globe. There were an estimated 1.15 million cases diagnosed in 2002 (1). There is marked geographical variation in incidence rates, being highest in the developed world and lowest in the developing countries in Asia and Africa. The highest age-standardized incidence is in North America, at 99.4 per 100,000 population, while the lowest is in central Africa, at 16.5 per 100,000.2 However, in most low- and middle-income countries (LMCs), incidence rates are increasing at a more rapid rate than in areas where incidence rates are already high. Global breast cancer incidence rates have increased by about 0.5% annually since 1990, but cancer registries in China are recording annual increases in incidence of 3–4%.1 In a population-based cancer registry in Western Turkey in 1992, breast cancer incidence and prevalence were 24.4/100,000 and 0.3%, respectively; cervical cancer was relatively rare (age-standardized incidence rate of 5.4) (2). Breast cancer incidence has increased in Turkey, and the estimated number of breast cancer cases in 2007 was 44,253.3 The distribution of breast cancer incidence varies significantly among different regions of Turkey due to geographical, economic, social, and cultural factors (3–5). The breast cancer incidence in Western Turkey (50/100,000 in 2000) is more than two times that of Eastern Turkey (20/100,000) due to 'Westernized' lifestyles (early menarche, late menopause, first birth >30 years of age, less breast-feeding, etc.) and other factors in the last decades (5–8).

Early detection of breast cancer increases life expectancy, breast conserving surgery rate, and quality of life of patients. In developed countries with regular breast cancer screening programs, the rate of asymptomatic breast cancer and breast conserving surgery have reached to 75% of patients with breast cancer (9). In Turkey, locally advanced breast cancer rate is over 50% in Eastern Turkey, this rate is around 20% in Western Turkey. Surgical treatment of breast cancer is heterogenous in different part of Turkey. In breast cancer registry program of Turkish Federation of Breast Diseases Societies including 15.000 breast cancer patients, the rate of breast conserving surgery was 34% (6,7).

Breast cancer surgical treatment changed in last three decades due to changing paradigms and hypothesis on breast cancer. Halstedian hypothesis was described by William Stewart Halsted in 1890s, to this hypothesis: "breast cancer is local-regional disease, and radical mastectomy is the treatment of choice". Due to this thought and hypothesis, radical mastectomy was the preferred treatment of breast cancer for one century. In 1970s, Dr.Fisher and his colleagues from NSABP revealed the second hypothesis named as "Systemic Disease Hypothesis". According to this hypothesis, "breast cancer is a systemic disease, and local treatments (surgery and radiationtherapy) has a partially impact on the treatment results. Systemic treatment is also necessary in a big number of patients. After this concept and prospective randomized studies, breast conserving surgery accepted as a standart surgical treatment of early breast cancer with localized disease, and multidisciplinary approaches should be implemented. In 1990s, spectrum hypothesis was the third hypothesis recommended by breast specialists. To this hypothesis, behavior of breast cancer differs from one patient to another one, the treatment should be individualized. Now, breast conserving surgery is the most common surgical procedure in patients with early breast cancer, and modified mastectomy should be performed in patients with disseminated disease in the breast.

In 1990s, sentinel lymph node biopsy (SLNB) with blue dye or radiocolloid and gamma probe or both started to perform in patients with clinically negative axilla to avoid axillary dissection and its morbidities especially lymphedema. Now, it is a standart treatment for patients with early breast cancer. Accepted SLN identification and false negative rates should be over 90% and less than 10%, respectively (10).

How we increased the quality of surgical treatment of breast cancer in Turkey?

General sudeons are responsible for surgical treatment of breast cancer in Turkey. They should know and perform surgical procedures for breast cancer (modified radical mastectomy, breast conserving surgery, sentinel lymph node biopsy(SLNB), and axillary lymph node dissection) according to the principles of modern surgical on-

cology. In addition, they also should have knowledge on multidisciplinary approaches and work with other related disciplines such as radiology, pathology, medical oncology, psycho-oncology, nuclear medicine, physical medicine and physiotherapy, etc.

General surgeon and his responsibility for breast cancer treatment

In modern breast cancer treatment concept, to perform a successful breast surgery, a surgeon should perform 6 to 10 breast cancer surgeries in a month, and 100 surgeries in a year. With this high volume of surgery, he will have a great breast surgery experience.

After five years of surgical residency, a surgeon should continue his education on breast cancer, develop his experience on breast cancer surgery. The ideal way to have experience on breast cancer surgery and treatment is to apply and complete a fellowship program on Breast Surgery. There is no formal breast surgery fellowship program in Turkey. We have tried to found breast fellowship program for 15 years in Istanbul Medical Faculty, but we could not be successful due to barriers coming from general surgeons. But, we organized a breast unit serving for breast cancer patients in 1986. More than 5.000 patients have been examined, and 500 patients with breast cancer have been operated in our breast clinic in a year. Breast Centers in medical schools and government education hospitals are organizing postgraduate courses and teaching programs on breast cancer surgery for surgeons. But this is not enough to teach more than 5.000 surgeons in Turkey. Turkish Surgical Society (<http://www.turkcer.org.tr>) is also working on sub-specialties in general surgery including breast surgery. But the results of these studies requires more time to finalize a breast surgery fellowship program and to implement.

While unexperienced surgeons perform breast cancer surgery, the rate of incomplete surgeries and complications related with procedures increase. A retrospective review of patients referred from outside institutions to Tata Memorial Hospital in Mumbai, India indicated that, of 424 women who underwent 'therapeutic' surgical interventions, 191 women (45%) were judged to have had incomplete surgery. Of these, 153 patients underwent completion revision surgery, and 123 had residual axillary lymph nodes, including 64 patients (52%) with metastatic lymph nodes that had been left behind in the axillary bed (11). We also see incomplete and successful surgical procedures in our country.

Breast conserving surgery and sentinel lymph node biopsy are ideal and standart surgical treatments in patients with early breast cancer (12). In selected patients, breast conserving surgery increases quality of life and reduces psychologic disorders in patients. Surgical morbidity of sentinel lymph node biopsy is also less than axillary lymph node dissection in prospective randomized studies. All women with early breast cancer have a right to select these less invasive surgical treatments. If a surgeon does not have an experience for these procedures, or available facilities

to perform, or expert radiologist and pathologist to work with, the patient should be transferred to a higher level center.

Turkish Federation of Breast Diseases Societies was founded in 2001, and has been organizing national breast cancer congresses, consensus conferences, regional post graduate courses on breast cancer to teach surgeons on breast cancer. This great efforts has been increased quality of breast cancer surgery. But the number of attendees should increase, and they should be forced to attend and to get more knowledge and credits to perform.

Surgeons doing breast cancer surgery should know not only principles of surgical oncology, but also basic principles of breast radiology, pathology, and other disciplines related with breast cancer. Radiology and pathology are the other core elements of successful breast cancer surgery and treatment. A successfully breast conserving surgery is not possible without a good radiologic and pathologic evaluation. Pathologist should be in operating room to asses surgical margins and sentinel lymph node(s). If a surgeon does not have a good team including pathologist and radiologist, accomplished breast surgery is not possible, and the patient should be transferred to another higher level center. Patient's desire, economic level, and other situations should be taken into consideration. Complete pathological evaluation including estrogen, progesteron receptors, and HER-2 status are absolutely necessary for ideal treatment. If pathologic analyses are not enough, specimens should be sent another center to evaluate.

For a successful surgical treatment of breast cancer core elements (surgeon, pathologist, radiologist) and other elements (medical oncologist, radiation oncologist, psycho-oncologist, nuclear medicine specialist, molecular biologist etc.) should come together at least once in a week to evaluate diagnosis, treatment and follow-up of patients with breast cancer.

Breast radiologist

Breast radiologists have important roles and responsibilities on diagnosis and treatment of breast cancer. These specialists should know details of mammogram, ultrasound, and magnetic resonance imaging, and they also follow progressions on these diagnostic tools.

After radiology residency, breast radiologists should increase their knowledge on breast cancer radiology by attending post-graduates courses, congresses, conferences on breast radiology. Breast radiology fellowship programs are not available in Turkey. These programs should be organized by Turkish Radiology Society to increase number of breast radiologists.

A breast radiologist should know minimal invasive radiologic procedures (such as guided breast biopsies, stereotactic biopsy, mammography, ultrasound or magnetic resonance imaging guided wire localization etc.). They also should be aware of postsurgical changes and possible recurrence in the breast after breast conserving surgery.

In order to perform a successful breast surgery, an experienced breast radiologist should work with a surgeon.

Breast pathologist

Breast pathology is very complicated and requires expert cytopathologists to evaluate fine needle aspiration biopsy, core biopsy, lumpectomy specimens for surgical margins, sentinel lymph node(s), excised specimens, receptor status (estrogen, progesterone receptors, HER-2) etc.

Breast pathologists should be in operating room for touch imprint or frozen section diagnosis of surgical margins, excised specimens.

As a conclusion, to increase the quality of surgical treatment of breast cancer surgery in Turkey, surgeons should have adequate knowledge and experience on breast cancer surgery, breast radiology, breast pathology and other related clinics. Multidisciplinary approaches should be performed.

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