Original Article

Current Status of Diagnosis And Treatment of Primary Breast Cancer in Beijing, 2008

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ABSTRACT

Objective: To investigate the status of diagnosis and treatment of primary breast cancer in Beijing, 2008.

Methods: All the patients who were diagnosed as primary breast cancer in Beijing in 2008 were enrolled in this study. Information of these patients, including the features of tumors, clinical diagnosis and treatment was collected, and filled in the well-designed questionnaire forms by trained surveyors. The missing data were partly complemented through telephone interviews.

Results: A total of 3473 Beijing citizens were diagnosed as primary breast cancer (25 patients with synchronal bilateral breast cancer) in Beijing, 2008. Of them 82.09% were symptomatic. 19.02% and 34.11% were diagnosed using fine needle aspiration biopsy (FNAB) and core needle biopsy (CNB), respectively. 15.92% received sentinel lymph node biopsy (SLNB) and 24.27% received breast conserving surgery (BCS). Among 476 cases with Her-2 positive, only 96 received anti-Her-2 therapy. We found that the standardization level varied in hospitals of different grades, with higher level in Grade-III hospitals. Of note, some breast cancer patients received non-standard primary tumor therapy: 65.63% of the patients with ductal carcinoma in situ (DCIS) received axillary lymph node dissection and 36.88% received chemotherapy; 25.89% of the patients underwent breast conserving surgery without margin status; 12.10% of the patients received chemotherapy less than 4 cycles.

Conclusion: Although most breast cancer patients received basic medical care, the mode of diagnosis and treatment should be improved and should be standardized in the future in Beijing.

Key words: Breast cancer; Diagnosis; Treatment; Nonstandard treatment

INTRODUCTION

Despite a recent decline in breast cancer mortality in the US, breast cancer is still the second leading incidence cancer in women in the world[1]. The annual age-standardized (world population) incidence rate of breast cancer was 37.8 per 100,000 in Beijing, 2007, with an annual 4.97% increasing from 1998 to 2007 according to the data from Beijing Cancer Registry.

A number of factors have been associated with the outcomes of the breast cancer. The most effective strategies are primary and secondary prevention. In addition, evidence-based standard diagnosis and treatment are critical for survival of breast cancer. Although evidence-based guidelines, such as NCCN and St Gallen consensus[2, 3] have been adopted in most developed countries, little is known about the current status of diagnosis and treatment of breast cancer in China.

With a population over 1.7 million, Beijing is one of the largest cities in the world. There are over 110 hospitals in Beijing, from 500-1000 beds large municipal hospitals (Grade III) to 200-500 beds district level hospital (Grade II). Approximately 3,000 new cases of breast cancer are diagnosed and treated in grade II and III hospitals each year in Beijing. To evaluate the current clinical practice in breast cancer, we obtained all medical information on the time of first visit hospital, stepwise examinations, different surgical treatment or chemotherapy or immunotherapy from 3,473 newly diagnosed breast cancers in Beijing, 2008.

MATERIALS AND METHODS

Study Population

According to the data from Beijing Cancer Registry, 3473 Beijing citizens were diagnosed as primary breast cancer and received anti-cancer therapy from January 1 to December 31, 2008. In this study, 101 hospitals provided the basic and clinical data of these patients.

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Table 1. The general information of breast cancer patients in Beijing, 2008

Information	Number of patients	%
Sex		
Male	13	0.37
Female	3460	99.63
Marital status		
Unmarried	51	1.47
Married	3353	96.54
Divorced or widowed	51	1.47
Unknown	18	0.52
Menstrual status*		
Premenopausal	1991	57.54
Postmenopausal	1442	41.68
Unknown	27	0.78
Diseases history		
History of benign breast disease	254	7.31
Personal cancer history	133	3.83
Family history of breast cancer	495	14.25
Family history of cancer	166	4.78
Total	3473	

* Excluded 13 cases of male breast cancer

Data Collection

A questionnaire was approved by the panel of the breast cancer experts including epidemiologists and breast surgeons, and used in this study from March 1 to August 1, 2010. The data of the breast cancer patients were collected mainly from the inpatient medical records and partly from the outpatient medical records, and then filled in the questionnaire forms by trained surveyors from the medical record rooms of 101 hospitals in Beijing. If the patient was diagnosed and treated in more than one hospital, we adopt the data from the hospital where the patient received surgical treatment. Some information of outpatient treatment was collected through telephone interviews.

Evaluation Criteria

The strategies that met the criteria of (NCCN Clinical Practice Guidelines in Oncology) and the recommendation of 2007 St Gallen conference[2, 3], as well as advice of breast cancer experts in Beijing, were defined as standard diagnostic and therapeutic methods.

Quality Control

The survey questionnaire design, training of surveyors, data review, data collection and data analysis were all well-controlled. During peer review, the filled questionnaire forms were double-checked first by two surveyor and then re-checked by the monitor randomly. All the data were finally input using parallel double-entry method and checked with ACCESS 2003 version.

Statistical Analysis

The frequency and proportions of all collected variables were calculated using statistical software SPSS 13.0.

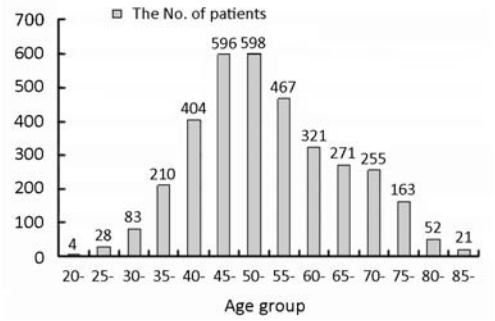

Figure 1. The age distribution of breast cancer patients in Beijing, 2008.

RESULTS

Characteristics General Date of the Patients

Among all 3473 patients, 3460 were females and 13 were males, with an average age of 54.4±12.1 years (range 20-92 years). The demographic characteristics of the patients are presented in Table 1. The age distribution of the patients in this study is shown in Figure 1.

The clinical tumor size was evaluated based primarily on ultrasonic or mammography record and secondarily on the document physical examination, 46.96% of the patients had tumors ≤2 cm. The pathological tumor size was defined according to the pathology report, and tumors ≤1 cm and 1-2 cm were 12.64% and 31.62%, respectively. 23.90% of the patients had no pathological document for tumor size. 36.14% of the patients had pathologically confirmed lymph node metastasis. 80.77% of the patients were invasive ductal carcinoma (Table 2).

Of all the cases, 3229 had document of estrogen receptor (ER) and/or progesterone receptor (PR), 72.30% of all the cases were ER and/or PR positive, 19.38% were ER and PR negative and 1.30% were uncertain, respectively. 3164 cases had document of Her-2 status, 476 (13.71%) were positive and 332 (9.56%) had uncertain status.

Detection and Diagnosis

Among 3473 patients, 2851 (82.09%) were symptomatic with the median time interval of one month from the initial self-awareness of the symptoms to visiting doctors. 17.33% of the cases were detected during regular physical examinations, and 30.07% of them were detected by image examination. The details of detection were listed in Table 3.

All 99.77% of the patients were treated based on pathological diagnosis. Among them, 19.02% were diagnosed using fine needle aspiration biopsy (FNAB), 34.11% were diagnosed using core needle biopsy (CNB), and 46.87% were diagnosed through fresh frozen section biopsy. The rates of sentinel lymph node biopsy (SLNB) and ultrasound guide FNAB ultras graphic abnormal axillary node were 15.92% and 6.10%, respectively (Table 3). There were 685 (19.72%) cases having the pathological information of axillary node before treatment.

In our study, 31.6% of the patients with positive ER status received semi-qualitative detection, and 30.2% of the patients with PR positive status received semi-qualitative detection.