Present Status of Breast Self-Examination in Kumamoto Prefecture

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Abstract

Purpose : The aim of this study was to evaluate the present status of breast self-examination (BSE) in Kumamoto Prefecture.

Materials and method : A cohort of 601 cases receiving the breast cancer screening from 10 July 2009 to 25 August 2009 at the Kumamoto General Health Center was enrolled in this study. Self-administered questionnaires yielded information on age, past history of cancers, family history of breast cancer, intervals of receiving breast cancer survey and frequency and awareness of BSE. All cases were allocated either to a group that performed BSE monthly or more times (BSE group) or to a group that performed BSE less frequently (NON-BSE group). We examined the relationship between the BSE frequency (BSE and NON-BSE groups) and other components such as age, presence of past history of cancers, presence of family history of breast cancer and intervals of receiving breast cancer screening. In NON-BSE group, awareness of BSE was also evaluated.

Results : Monthly BSE was observed in 289 (48.1%) of all cases. BSE was performed more frequently in older women than in younger women. Ignorance of BSE technique is one of the main reasons why BSE was not performed regularly.

Conclusion : To increase in performance rate of regular BSE on the breast cancer screening, present way for the instruction of BSE technique may be improved more proper way.

Key words : breast cancer, breast self-examination, breast cancer screening.

Introduction

Breast cancer has been increasing recent years in Japan[1)]. Annual increase in the number of cases with breast cancer has reached approximately 40,000[1)]. Moreover, higher mortality rate has been observed especially in breast cancer as compared to other primary cancers afflicted by Japanese women in their prime[1)]. With the aim of reducing the mortality rate of the breast cancer, its mass survey has been initiated in accordance with the legislative action in 1987. Recently, breast cancer screening in combination with mammography and conventional procedure is being performed on a routine basis at health-care facilities for the mass survey of breast cancer[2)]

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Monthly breast self-examination (BSE) practice is recommended for an early detection of breast cancer[3]. Even though the effectiveness of BSE in reducing breast cancer mortality is uncertain, it is actually recommended by many professional organizations[3-5]. Of the common breast cancer screening modalities, BSE is widely practiced for reasons of the subject-centeredness, non-invasiveness and low expenditure. However, it is uncertain how many women actually practice monthly BSE at home.

The breast cancer screening for most women residents in Kumamoto prefecture has been carried out for many years at Kumamoto General Health Center. Moreover, they are informed of the meaning of BSE and how to do it by medical providers after breast cancer screening. Accordingly, it is important to appreciate the status quo of their practice of BSE in the privacy of their home. The aim of this study was to evaluate the status in practice of regular BSE in the breast cancer survey.

Materials and Methods

From 10 July 2009 to 25 August 2009 at the Kumamoto General Health Center, 601 women affiliated with several factories were enrolled in this study. Self-administered questionnaires yielded information on age, past history of cancers, family history of breast cancer, intervals of receiving breast cancer survey and frequency and awareness of BSE. All participants were allocated either to a group that performed BSE monthly or more times (BSE group) or to a group that performed BSE less frequently (NON-BSE group). We examined the relationship between the BSE frequency (BSE and NON-BSE groups) and other components such as age, presence of past history of cancers, presence of family history of breast cancer and intervals of receiving breast cancer screening. In NON-BSE group, awareness of BSE was evaluated.

Statistical analysis was performed using the Med Calc software. Type I error was used for the comparison of detection rate between two groups. Significant difference was defined as $p<0.05$.

Results

Of the 601 cases, the numbers of BSE and NON-BSE groups were 289 (48.1%) and 274 (45.6%), respectively. The age of the BSE and NON-BSE groups ranged from 34 to 88 years (mean age : 63.4 ± 9.7), and from 34 to 84 years (mean age : 59.9 ± 10.1), respectively. The average age was significantly older in the BSE group than in the NON-BSE group ($p<0.01$). The age distributions of both groups are summarized in Table 1. In aged 30 to 39 years, 40 to 49 years, and 50 to 59 years, the incidence of the number of cases in the NON-BSE group was higher than that in the BSE group. On the other hand, in aged 60 to 69 years, and over 70 years, the incidence of the number of cases in the BSE group was higher than that in the NON-BSE group. Almost of all cases in NON-BSE group had the knowledge of BSE technique.

Incidence of past history of cancers and family history of breast cancer in both groups is shown in Table 2. Past history of cancers in the BSE and NON-BSE groups were found in 46 cases (16%) and 16 cases (5.8%), respectively.

Family history of breast cancer in BSE and NON-BSE groups were found in 17 cases (5.9%) and 6 cases (2.2%), respectively. Incidence of past history of cancers and family history of breast cancer was higher in the BSE group than that in the NON-BSE group ($p<0.01$), which was high especially in aged 60 to 69 years and over 70 years in the BSE group. Table 3 shows an interval of breast cancer survey from the preceding screening in both groups. High incidence of the number of cases in the BSE group was found for intervals of one year (60.6%) and two years (32.5%). On the other hand, high incidence of the number of cases in the NON-BSE group was found for intervals of one year (47.1%), and two years (37.6%).

In the NON-BSE group, the reasons for not performed BSE monthly were classified into seven reasons as follows; failure to perform BSE, ignorance of BSE technique, fear of examining their own breasts, disregard of breast cancer, receiving every year breast cancer screening, impediment in the upper limbs and others (Table4). High incidence for the main reason was observed in failure to perform BSE (40.5%) and ignorance of BSE technique (41.6%).

Discussion

Clinical examination and mammography have been viewed as very important screening techniques for early detection of breast

Table 1 BSE and NON-BSE Groups

Age	BSE Case (%)	NON-BSE Case (%)
30-39	3 (1.0)	9 (3.2)
40-49	35 (12.1)	47 (17.2)
50-59	39 (13.5)	71 (25.9)
60-69	136 (47.1)	92 (33.6)
≧70	76 (26.3)	55 (20.1)
Total	289 (100)	274 (100)

BSE/Total ; 48.1%
NON-BSE/Total; 45.6%

Table 3 Interval from the Preceding Screening

Year \ Group	BSE	NON-BSE
One Year	175 (60.6)	129 (47.1)
Two Years	94 (32.5)	103 (37.6)
Three Years	5 (1.7)	18 (6.5)
≧four Years	15 (5.2)	24 (8.8)
Total	289 (100)	274 (100)

case (%)

Table 2 Past History of Cancer and Family History of Breast Cancer

Age \ Group	BSE (case)		NON-BSE (case)	
	CH	FHBC	CH	FHBC
30-39		1		1
40-49	1	1	1	1
50-59	3	2		2
60-69	20	6	7	1
≧70	22	7	8	1
Total	46	17	16	6

CH, cancer history; FHBC, family history of breast cancer

Table 4 Main Reason of NON-BSE Group

Main Reason	Case (%)
failure to perform BSE	111 (40.5)
ignorance of BSE technique	114 (41.6)
fear for examination of the own breast	9 (3.3)
disregard of breast cancer	13 (4.8)
receiving every year breast cancer screening	2 (0.7)
an impediment in the upper limbs	2 (0.7)
others	23 (8.4)
Total	274 (100)

cancer[6-7]. In addition, it is indisputable that BSE contributes greatly to reducing of the risk of death by virtue of early detection of breast cancer[8]. Although the knowledge of BSE is widespread, it is actually practiced only by limited cases.

In Kumamoto prefecture, screening with conventional procedure in combination with screening by mammography has started in 1999. The number of cases receiving the combined screening has increased annually from 2,314 in 1999 to 23,462 in 2005 owing to the effort of the municipality. Moreover, the examinees of the screening are instructed BSE technique by their medical providers after screening. Although they are taught to perform BSE monthly, it is unclear whether they actually practice BSE at home as instructed. Only 48.1% in 601 cases performed BSE monthly. According to a reviews on BSE[9-10], a similar rate, nearly 40%, of women practice BSE on a monthly basis. However, there is not accurate evidence that those women who practice BSE monthly indeed perform the procedure correctly[9-10].

In this study, the mean age was significantly higher in the BSE group than that in the NON-BSE group ($p<0.01$). The age in BSE group was distributed higher in aged 60 to 69 and over 70 years. The in NON-BSE group was higher in aged 30 to 59 year. Though it has been reported that young women carry out BSE monthly[9], this study shows that older women practice monthly BSE more than younger women. It seems likely that older women have accumulated more information on BSE than younger women since the mass survey for breast cancer started approximately twenty years ago in Kumamoto prefecture.

Women who had past history of cancers and family histories of breast cancer, especially older women, performed BSE more often. It can be explained by their awareness of higher risk of cancer. An interval from the preceding screening was found more frequent in one year and two years in both groups. Therefore, significance of the breast cancer screening is recognized well in both groups.

As far as pathological examination is con cerned, the age-adjusted maximum tumor diameter of patients practicing monthly BSE was smaller as compared to those performing BSE less often than monthly and those who

never perform BSE[11]. Wilke et al.[12] concluded that BSE detected new breast cancers in high-risk women undergoing screening mammogram, clinical breast examination, and yearly breast MRI. On the other hands, the practice of regular BSE by trained women did not reducebreast cancer-specific or all-cause mortality[13].

Therefore, future studies are necessary to obviate the effectiveness of BSE in association with the early detection of breast cancer and the reduction of the breast cancer death. Although the knowledge of BSE technique is widespread, it is actually practiced on a monthly basis by approximately 50% of cases. The ignorance of BSE technique still remains an important factor (41.6%) of not performing BSE, despite the medical providers' effort top teach them how to perform BSE properly after screening. Thus, we must improve the method for teaching women a proper way to perform BSE. Now, we have used an artificial breast cancer model for the instruction of BSE technique. More effective instruction of BSE technique may be possible to use these models. Moreover, since BSE is an important skill, accurate assessment of the learner's BSE techniques are necessary adequate evaluation of BSE teaching methods[14-15].

In conclusion, we should emphasize to woman the effectiveness of properly-performed monthly BSE, and medical providers should teach women in carrying out BSE regularly and correctly, irrespective of their age. It seems likely that combined breast cancer screening with mammography and conventional procedure, and also with monthly BSE is important for detecting breast cancers in their early stages.

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