

Bilateral Breast Cancer

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ABSTRACT: Fifteen patients with bilateral breast cancer were clinically analyzed on the basis of a result of surgical treatment, in whom eight patients had bilateral synchronous breast cancer, four were non-synchronous and the remaining three were metastatic breast cancer, respectively.

The prognosis of patients with bilateral breast cancer was not pessimistic, indicating that it depended on the disease stages of each cancer. On the other hand, it was emphasized that the prognosis of patients with bilateral metastatic breast cancer was extremely poor. Surgeons should be aware of high risk of contralateral breast cancer in careful follow-up following mastectomy for breast cancer.

It is generally accepted that patients with cancer of one breast have a higher than average risk of developing cancer of the opposite breast. It is not so rare that bilateral breast tumors are seen in an identical patient on account of the effectiveness of high resolution mammography and sonography in early detection. It is known that a cancer of one breast means the most frequent precancerous lesion of the opposite breast.

Bilateral breast cancer may occur in any of the following ways.

1. Bilateral simultaneous breast cancer occurring independently in both breasts and at the same time (synchronous).
2. Bilateral primary non-simultaneous breast cancer occurring independently in each breast but at different times (asynchronous).
3. Bilateral secondary breast cancer occurring either simultaneously or non-simultaneously but as one of the manifestations of metastatic dissemination.

However, despite these simple definitions, there is often great difficulty in determining the exact type of bilateral breast cancer under consideration, in particular, identifying second primary cancer from metastatic one.

In this study, bilateral breast cancers were clinicopathologically reviewed on the basis of a result of surgical treatment at the First Department of Surgery, Nagasaki University School of Medicine.

PATIENTS

During the period from January 1968 to April 1981, 485 patients with breast cancer were surgically treated in the First Department of Surgery, Nagasaki University School of Medicine.

At the same period, surgical treatments in 15 patients with bilateral breast cancer were analyzed, in whom synchronous cancer included four patients (0.83%) asynchronous eight (1.65%) and metastatic three (0.62%), respectively.

Four patients with bilateral simultaneous breast cancer were listed in **Table 1**.

Table 1. Bilateral breast cancer (Metastatic)

case	age	right left	tumor location	T	N	TNM stage	operative method	n	Tnm stage	histology	adjuvant	prognosis
1	39 (11M)	right	EABCD	4	2	IIIb	extended	1 β	III	Scirrhou.	Liniac.	7M dead
		left	A	2	1b	II	limited (O'ophrectomy)	1 β	II	meta. aden.	5Fu 5FuDS	
2	38 (7M)	right	E	2	1b	II	standard	1 β	II		Tele-c.	5M dead
		left	A	2	1b	II	O'ophrectomy			meta. aden.	5Fu MMC	
3	25 (6M)	left	CA	2	1b	II	limited	1 β	II	Solid-tub. (g)	MMC TAM	6M alive
		right	BD	4	1b	IIIb				meta. aden.	CAF MPA	

Solid-tub.: solid-tubular carcinoma Schirrous.: scirrhou carcinoma
meta. aden.: metastatic adenocarcinoma

Table 2. Bilateral synchronous breast cancer

case	age	right left	tumor location	T	N	TNM stage	operative method	n	Tnm stage	histology	adjuvant	prognosis
1	60	right	C	2	1a	II	standard	0	I	Scjorripis.	Liniac. 5FuDs OK432	10Y 5M alive
		left	A	2	1a	II	standard	1 α	II	Solid-tub.		
2	57	right	AEC	2	1b	II	extended	1 β	II	Solid-tub.	Liniac.	7Y 5M alive
		left	A	2	0	II	extended	0	I	Solid-tub.	5FuDs MMC	
3	45	right	AC	2	0	II	limited	0	I	Solid-tub.	MMC 5FuDs TAM	7Y 1M alive
		left	C	1	0	II	limited	0	I	Solid-tub.		
4	79	right	C	2	0	II	limited	0	I	Papillo tu.		2M alive
		left	CD	2	1a	II	limited	0	I	mucinous		

Solid-tub.: solid-tubular carcinoma Schirrous.: scirrhou carcinoma

The tumors on the right side were in stage II (tumor size from 2.1 to 5cm and nodal involvement of n_0 to n_{1a}) (positive metastasis into the brachial and subscapular nodes). The operative method was standard in one, limited in two and extended in one for a patient with tumor location of AEC. On the other hand, the tumor locations on the left were A in two, C in one and CD in one respectively. The operative methods used were limited in two, standard in one and limited in one respectively. Nodal involvement was seen in two independently. Histologic types were scirrhus carcinoma in one, solid-tubular carcinoma in five, papillotubular

in one and mucinous in one respectively.

As a combined therapy used, irradiation of liniac was used in two and 5FU in combination with other regimens was prescribed in three.

The prognoses of patients with bilateral synchronous breast cancer were extremely fair, the survival time ranging from two months to 10 years and five months, still living well.

The patients with bilateral non-synchronous breast cancer were listed in **Table 2**. The tumor locations were not particular when compared with those with bilateral synchronous breast cancer. In contrast, the disease stages tended to be progression. The time interval between

Table 3. Bilateral synchronous breast cancer

case	age	right left	tumor location	T	N	TNM stage	operative method	n	Tnm stage	histology	adjuvant	prognosis
1	50 (4M)	left	C	3	1a	IIIa	limited	0	II	Papillo tu.	MMC	10Y 5M alive
		right	C	1	0	I	limited	0	I	Papillo tu.	MMC	
2	39 (8Y10M) 48	right	AEC	4	0	IIIb	extended	0	III	Papillo tu.	Tele Co. 5Fu	11Y 5M alive
		left	C	2	1b	II	standard (O'ophrectomy)	0	I	Solid-tub.	MMC.PSK 5FuDs MMC	
3	42 (9M) 43	left	C	3	2	IIIa	extended	1 β	III	Inf. duct. c	Liniac. 5Fu	5Y 4M dead
		right	C	1	1b	II	standard (O'ophrectomy)	1 α	I	Inf. duct. c	Liniac. 5Fu OK432	
4	43 (4Y3M) 47	right	D	1	0	I	standard	1 α	I	Inf. duct. c	Liniac. 5Fu.MMC	6M 1M dead
		left	A	2	1b	II	O'ophrectomy			Inf. duct. c	Androgen	
5	53 (2Y) 55	left	AEB	3	2	IIIa	extended	1 β	III	Solid-tub.	Liniac. 5Fu	4Y 6M dead
		right	EABCD	3	2	IIIa	extended (O'ophrectomy)	2	III	Inf. duct. c	Liniac. 5Fu FT207	
6	45 (3Y11M) 49	left	A	1	3	IIIb	extended (O'ophrectomy)	1 β	II	Papillo tu.	Liniac. 5Fu	5M deac
		right	C	1	2	IIIa	limited	1 β	II	Solid-tub.	Liniac. 5Fuds	
7	43 (9Y11M) 52	right	C	3	0	IIIa	extended	1 β	III	Papillo tu.	Liniac. 5Fu Ds	5Y 11M alive
		left	C	2	0	II	limited	0	I	Papillo tu.	MMC.PSK	
8	40 (1Y9M) 42	right	AC	2	0	II	standard	0	I	Solid-tub.	MMC FT207	6Y 1M alive
		left	C	1	0	I	limited	0	I	Solid-tub.	FT207	

Solid-tub.: solid-tubular carcinoma. Schirrous.: scirrhous carcinoma
 Inf. duct. c: infiltrating duct carcinoma. papillot.: papillotubular carcinoma

the two tumors distributed from four months to nine years 11 months. The operative methods used were standard in four, extended in six and limited in five including oophorectomy in one. Nodal involvement was seen in five in which two were based on unilateral breast cancer, the remaining three originated from bilateral one.

All patients with bilateral non-synchronous breast cancer had the adjuvant therapy of chemotherapy and/or irradiation, alone or in combination.

The prognoses of patients with bilateral non-synchronous breast cancer were not pessimistic, indicating that it depended on progression of

disease stage in each cancer.

In this series, three patients with metastatic breast cancer were treated as listed in **Table 3**.

Primary cancer was more likely to be advancing with nodal involvement in all. Extended and/or standard operations in combination with surgical hormone therapy were main as an operative method used in this series. Needless to say, postoperative adjuvant therapy was mandatory. However, the prognosis was very poor and all died of recurrence within one year.

DISCUSSION

The definition of bilateral breast cancer is divided into the two categories, that is, second primary or metastatic. Bilateral primary breast cancer is defined in terms of a presence of cancer infiltration and difference in histologic types or a presence of an intraductal and intralobular spread.

In addition, synchronous cancers are regarded as cancers occurring with the time interval of one month as reported by Hojo¹⁾ and six months as reported by Kasumi²⁾.

The incidence of bilateral primary non-synchronous breast cancer is considerably more frequent although that of bilateral primary synchronous breast cancer has been reported to be from about 0.1% to 2.0%. It is accepted that the ages of patients with bilateral primary breast cancer are under 50 years old. In this series, the ages distributed from 25 to 79 with an average of 37.3 years old.

It is more likely that bilateral breast cancer occur in younger patients under 50 years old. In case of non-synchronous breast cancer, Takatsuka³⁾ reported that the longer the time interval between the first and second tumors, the longer the survival time.

It is plausible that the tumor location is more frequently seen in C region as occurs in primary cancer²⁾. The operative procedures were independently selected according to the disease stage of bilateral breast cancers, the extended radical operation was carried out for advanced cancer and limited operation was selected for early cancer. Takahashi⁴⁾ recommended limited operation should be preferred as far as possible for the reason of functional failure. On the other hand, concomitant bilateral operation is feasible for selected patients by using Ratzler' operation⁵⁾. Controversy over histology of bilateral breast cancer revolves around high incidence of lobular carcinoma^{2) 4)}.

It is reported that histology of bilateral breast cancer is characteristic of non-infiltrative mucinous and lymphocyte-infiltrating medullary carcinomas^{6) 7)}. Some investigators^{3) 8)} reported that the prognosis of bilateral breast cancer is not pessimistic but it is much better rather than

expected. The survival time after surgery for bilateral breast cancer depend on the disease stage of the first and second tumors. In fact, early detection is easier in the second tumor rather than in the first tumor.

On the other hand, in this series, three patients with bilateral metastatic cancer underwent surgery. However, their prognoses were very poor. It is believed that the etiology of bilateral breast cancer is associated with

- 1) abnormality of hormonal environment
- 2) abnormality of tissue sensitivity to carcinogens
- 3) possibility of induced cancer by chemotherapy and irradiation
- 4) aberration of postoperative immune state.

In Europe, random biopsy of mirror image for bilateral breast cancer is at times recommended. In addition, it is also recommended that selective, prophylactic contralateral mastectomy is mandatory for bilateral breast cancer^{9) 10)}.

However, on the contrary, Japanese consensus is now hesitate to perform prophylactic contralateral mastectomy.

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