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A Limited Operation for Breast Cancer

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ABSTRACT : A limited operation for breast cancer is now prevalent in accordance with advances in the adjuvant therapy. Seventy-five per cent of Stage I patients and 25.9% of Stage II were the candidates of the limited operation and the Surgical outcomes were satisfactory as compared with those of standard radical mastectomy.

However, preoperative assessment of nodal involvement was not necessarily equivalent to postoperatively comfirmed one. Perioperative histologic examination is required for further preservation of surgical oncologic radicality including determination of the extent of node dissection.

INTRODUCTION

Curative operation for breast cancer aims at a complete resection for primary tumor mass of the breast with dissection of metastatic lymphnodes. The operative procedures were divided to many methods with variety.

In particular, modified radical mastrectomy includes the two types of AUCHINCLOSS[1] MADDEN[2] in which major and minor pectoral muscle were preserved and PATEY[3], in which minor pectoral muscle was left in place.

However, to develop a standarized operative procedure, oncologic radicality should be ensured under a restrict indication.

The purpose of this study is to evaluate the surgical outcome of modified radical mastectomy and to determine the indication for breast cancer.

PATIENTS

From January 1975 to December 1988, 333 breast cancers were operated upon at the First Department of Surgery Nagasaki University School of Medicine. These cases were increasing during a period from August 1981 to December 1988 as shown in Table 1. Most of Ⅲ cases underwent a limited operation for Stage I and StageⅡ.

However, it was rarely indicated for StageⅢb and Stage Ⅳ as shown in Table 2 on account of the poor general condition such as older age, and diabetes mellites.

From the standpoint of disease stages, limited operation was indicated in only 1 case of T1 or T2, including T3 and No or N1, in a few cases including n_{1b} as shown in Table 3.

In view of the preoperative assessment of nodal involvement as shown in Table 4, in those who were estimated as No. 116 (80.6%) were No although 14 (9.7%) were N1a, 13 (9.0%) were N1b and 1 (0.7%) was n2, respectively.

On the other hand, the 66 patients assessed as being n1a corresponded to N0 in 44 (66.7%), N1a in 14 (21.2%), N1b in 7 (10.6%) N2 in 1 (1.5%) and also the 83 patients who were preoperatively assessed as being n_{1b}, n_0 was seen in 22 (26.2%), n1a was in 25 (29.8%), N1b 22 (26.2%), N2 in 13 (15.6%) and N3 in 1 (1.2

Table 1. Stage I, II breast cancer patients with limited operation

	Br	Br+Ax	Br+Ax+Mn	total
1975. 1-1981. 7 (6Y7M)	1	7	21	29
1981. 8-1988.12 (7Y5M)	3	41	38	82
total	4	48	59	111

Table 2

Relationship between operative methods and TNM clessification

op. methods	I	II	IIIa	IIIb	IV
Br	2	1	1		
Br+Ax	21	22	1	1	2
Br+Ax+Mn	34	24	1		
Br+Ax+Mj+Mn	12	60	12	2	6
Br+Ax+Mj+Mn+PS	7	76	25	10	4

Relationship between operative methods and tnm clessification

op. methods	I	II	III	IV
Br	3			
Br+Ax	37	7		3
Br+Ax+Mn	50	7	1	1
Br+Ax+Mj+Mn	52	24	7	8
Br+Ax+Mj+Mn	42	41	24	15

Table 3

Relationship between operative methods and TNM classification

Stage I			Stage II			
手術術式	T1N0	T1N1a	T1N1b	T2N0	T2N1a	T2N1b
Br	2	0	0	1	0	0
Br+Ax	15	4	0	12	17	4
Br+Ax+Mn	23	11	2	15	5	2

Relationship between operative methods and tnm classification

Stage I				Stage II			
手術術式	T1n0	T1n1 α	T2n0	T1n1 β	T21 α	T2n1 β	T3n0
Br	2		1				
Br+Ax	16	1	18	2	3	2	1
Br+Ax+Mn	27	7	17	2	3	1	

Table 4. Relationship between N and n factors

	n0	n1 α	n1 β	n2	n3	total
N0	116 (80.6)	14 (9.7)	13 (9.0)	1 (0.7)		144 (100)
N1a	44 (66.7)	14 (21.2)	7 (10.6)	1 (1.5)		66 (100)
N1b	22 (26.2)	25 (29.8)	22 (26.2)	13 (15.6)	1 (1.2)	83 (100)
N2		3 (11.5)	7 (26.9)	15 (57.7)	1 (3.8)	26 (100)
N3			2 (25.0)	1 (12.5)	5 (62.5)	8 (100)

%) respectively.

In the patients who were preoperatively assessed as being No. 9.7% had an extension of nodal involvement beyond n1p and in the patients recignized as being N1a, 12.1% corresponded to a nodal involvement of n1p.

The survival rates were compared among various operative procedures. The surgical outcome of the limited operation for stage I and II patients was satisfactory as compared with that of a standard radical operation on the condition of a limited detrermination of surgical indication.

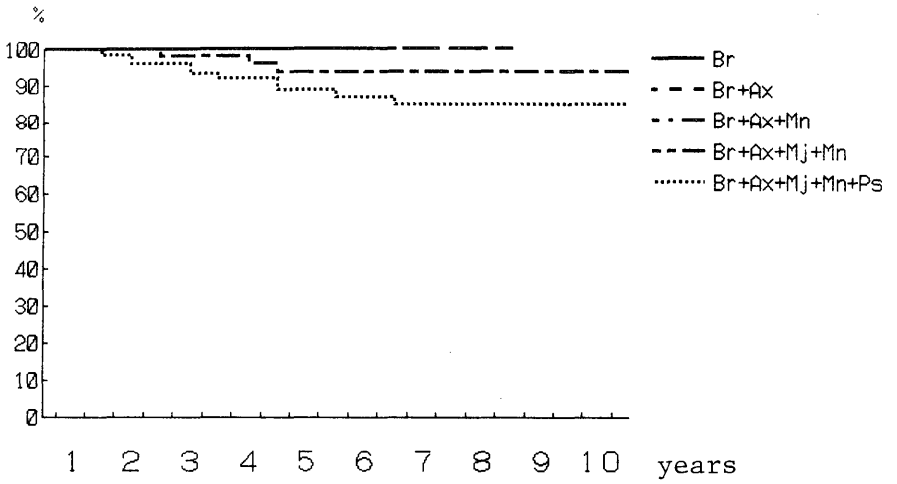

Fig. 1. Survival rates according to operative procedures in stage I, II patients

DISCUSSION

A limited operation is of great benefit to eliminate the surgical risk, minimizes surgical immunologic depression, preserves an adequate function and offers an advantage to cosmetic appearance. And also, oncological radiocality is ensured under the restric selection.

On the other hand, Concern has been raised regarding postoperative atrophy of the remained pectoral muscles. MOOSMAN[4] reported that the pectoral nerve is divided into the medial and lateral parts, in which the medial branches travels medially and distributed into the clavicula, manibrium sternum and sternum with two to four branches.

Meanwhile the lateral branch arises from the inside or dorsal side of the minor pectoral muscle and distributes into lower one third of the major pectoral muscle and visceral parts of the ribs. It's variation is 1) descending alog outside of lower half of the major pectoral muscle (38.3%) 2) separating into the two parts, one penetrates the minor pectoral muscle, the other surrounds lateral to the major pectoral muscle (32%) 3) penetrating the minor pectoral muscle as a single branch (22%) and 4) dividing to two or three branches and penetrating at different levels of the minor pectoral muscles, which are regarded as a lateral nerve named by SATO[5].

Attention should be paid that these nerves are kept healthy. avoiding injury to the nerve at node dissection.

However, ENOMOTO[6] reports that the degree of atrophy of the pectoral muscles are severe in 10% and slight in 33%. He also emphasizes it is necessary in preserving not only the upper pectoral nerves but also intermediate nerves and or nutritional vessels.

Therefore, the problem confronting surgeons is as to the extent of nodes which should be dissected out, ensuring oncologic radicality as well as preserving the pectoral nerves.

ENOMOTT[6] points out that if the tumor size is less than 1cm in diameter, Node dissection in Level III should be excluded and if the tumor size is more than 1cm in diameter, nodes should be dissected out including Level III.

The indication of a limited operation for breast cancer should be in Stage I but it is possible to extend to the cases of Stage II.

However, even in Stage I a standard radical mastectomy is recommended for the following cases.

1) in the case of revealing histologic patterns of vascular invasion and or cancer infiltration into the surrounding fatty tissues in the specimens taken preoperatively

2) in the cases of intraoperatively defined node metastasis

3) the tumors situated in the inframammary fold

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