

## THE CONTRALATERAL BREAST IN IPSILATERAL BREAST CARCINOMA: ROLE OF MAMMOGRAPHY

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This study was done to assess the value of mammography in contralateral breast of the patient with ipsilateral breast carcinoma.

### MATERIALS AND METHODS:

From February 1994 through January 1996, at Maharaj Nakorn Chiang Mai Hospital, film-screen mammograms of the contralateral breast were obtained in 100 patients who had had a unilateral mastectomy to breast cancer 94 patients were asymptomatic, 4 had breast mass and 2 had axillary mass. A retrospective review was undertaken to determine the development of the second primary breast carcinoma or metastasis in the contralateral breast.

### RESULTS

All symptomatic patients were abnormal on mammograms. Four patients who had breast masses had biopsy-proven second primary carcinoma. Two patients who had axillary masses had biopsy-proven metastases from breast carcinoma. Two out of 94 asymptomatic patients had abnormal mammograms, one proved to be a second primary carcinoma and the other proved to be fibroadenoma.

Patients who have had ipsilateral breast carcinoma are at increased risk for cancer in the contralateral breast. Continuing regular follow-up

with careful examination and mammography of the contralateral breast are recommended for all patients having ipsilateral breast carcinoma to be detected early, potentially curable disease.

**Key words:** Bilateral breast carcinoma, mammography

### INTRODUCTION

The risk of developing a second primary carcinoma in the remaining breast of a woman who has undergone unilateral mastectomy is higher with respect to the general occurrence rate of breast carcinoma.<sup>(1-6)</sup> Detection of the second primary carcinoma formerly was by physical examination, random biopsy and prophylactic contralateral mastectomy.<sup>(3,7)</sup> The advent of modern mammography has made it possible to detect contralateral breast carcinoma in its clinically occult or non-palpable stage and to make the differentiation from metastasis.<sup>(8-10)</sup>

The aim of this study was to examine the incidence of second primary breast carcinoma and assess the value of mammography in detection and differentiation of a second primary breast carcinoma from metastasis.

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## MATERIALS AND METHODS

From February 1994 through January 1996, at Maharaj Nakorn Chiang Mai Hospital, film-screen mammograms of the contralateral breast were obtained in 100 patients who had had a unilateral mastectomy for breast carcinoma. Age of incidence, age at menarche and at menopause, familial history of breast cancer and pathological features (histological types and stages) were studied.

The criteria on which we base the diagnosis of a second primary carcinoma were 1). the patients did not have clinical or radiological evidence of local recurrence or distant metastasis from the first primary tumor at the time of mastectomy for the second breast carcinoma, 2). the time interval between the two independent primary carcinomas was greater than six months, and 3). histologically, the second tumor was different. There were in situ change, and different grade of differentiation.

## RESULTS

Second primary breast carcinoma was diagnosed in all 4 cases who had breast masses (Fig

1,2). One of the four cases had 2 new primaries (Fig 3). Table 1. shows age at the time of diagnosis of the first primary carcinoma to be 36-61 years (mean 44.5 years) and the time interval between the two carcinoma to be 1-11 years (mean 4.8 years). Axillary lymph node involvement of the first and second primary carcinomas is shown in table 2. Tumor stage of the first and second primary is shown in table 3. All patients had infiltrating ductal carcinoma in the first and second primary. There was no evidence of local recurrence or distant metastasis at the time of mastectomy for the second primary carcinoma.

Metastatic axillary lymph node in the contralateral side was diagnosed in two cases who had axillary masses (Fig 4 ). Two abnormal mammograms were found in the 94 asymptomatic patients. Pathological examination showed second primary breast carcinoma in one (Fig 5) and fibroadenoma in the other (Fig 6 ).

Table 1.

Case	Age at first primary carcinoma (years)	Time between first and second primary carcinoma (years)
1	42	3
2	43	11
3	36	1
4	61	5
5	40	4
	mean 44.5	mean 4.8

Table 2. Involvement of axillary lymph nodes

Case	First primary	Second primary
1	Positive	Negative
2	Negative	Negative
3	Negative	Negative
4	Positive	Positive
5	Positive	Positive

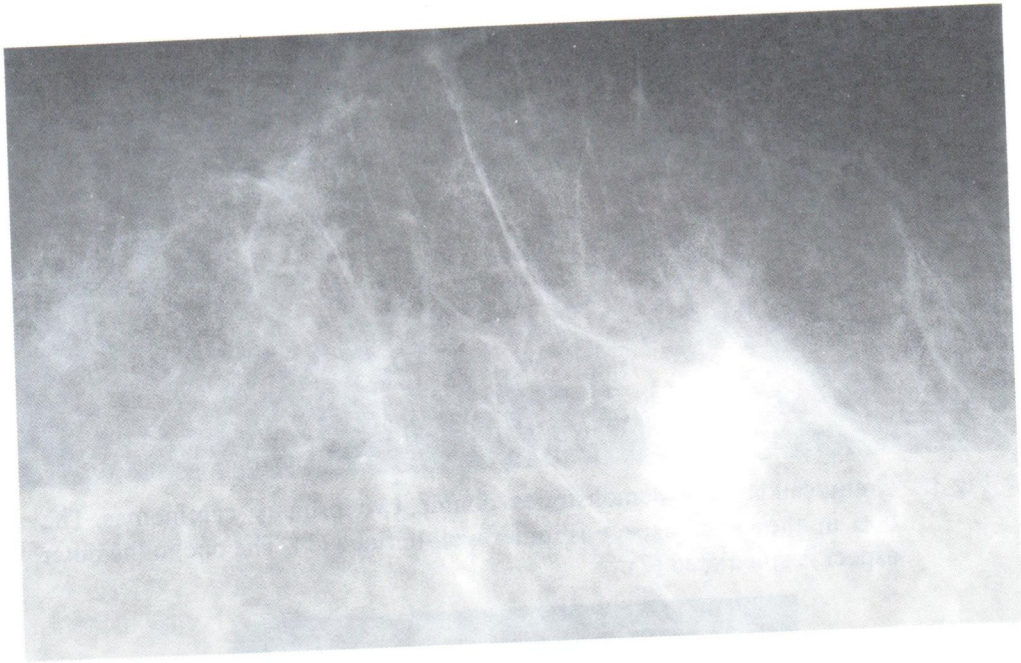


Fig 1. Magnification view showing an irregular border mass without calcification.

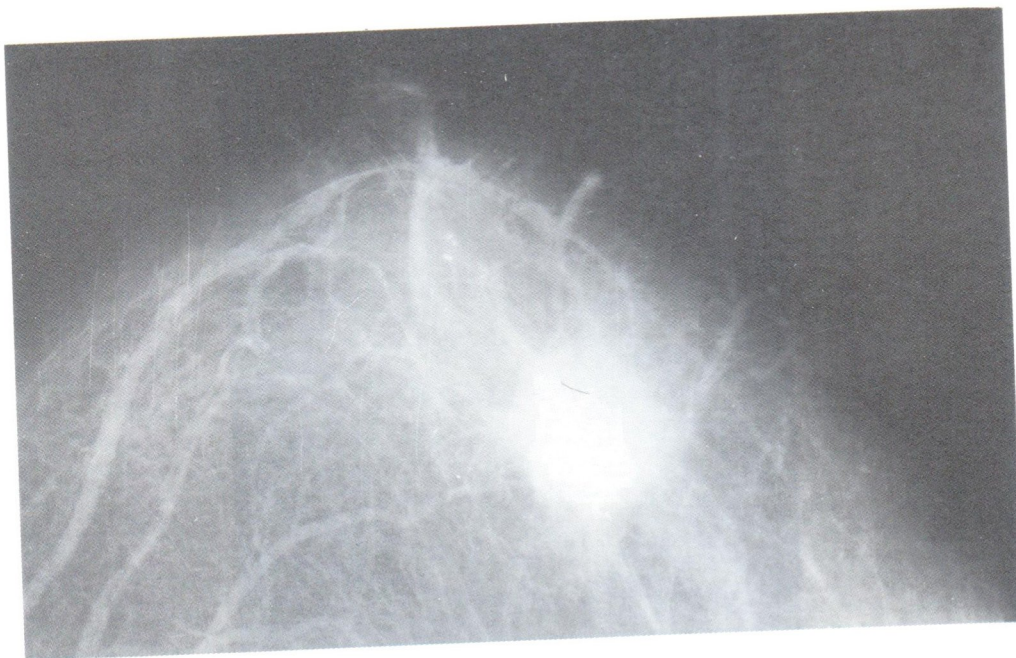


Fig 2. Craniocaudal view showing a high density spiculated mass.



Fig 3. Cranio-caudal view demonstrates double two primary carcinomas. The one in the inner aspect is rather well-defined (1). The one in the outer aspect is spiculated (2).

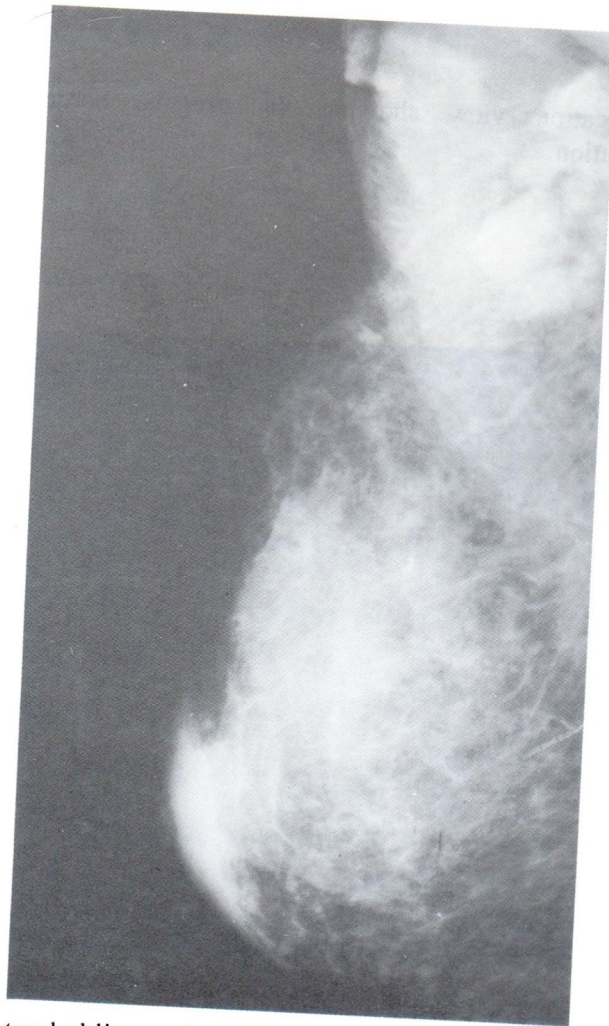


Fig 4. Mediolateral oblique view showing multiple enlarged axillary nodes, generalized increased breast density and thickening of skin.



Fig 5. Magnification view demonstrates the high density, spiculated mass.



Fig 6. Craniocaudal view showing the rather well defined mass with partially obscured border. Excisional biopsy revealed fibroadenoma.

**DISCUSSION**

Since the breast is a paired organ, and since cancer of this region is frequently of multicentric origin, the development of simultaneous or subsequent independent malignancies on both sides is a well-established characteristic. All women who develop cancer in one breast have a 5-8 times greater risk of developing a second primary on the other side than do women in the general population.<sup>(1-6,11)</sup> The subsequent occurrence of primary carcinoma in the contralateral breast varies from a few percent to more than 20% according to different authors.<sup>(2,5,12,13)</sup> Factors associated with increased risk include young age at diagnosis, familial history of breast cancer, multicentricity, lobular carcinoma in situ and invasive lobular carcinoma.<sup>(6,10,11,14,15)</sup> According to Robin and Berg<sup>(1)</sup>, the risk of having a second primary cancer was 10 times greater than in the normal population when the first primary cancer was diagnosed at the age under 50 years. In our series, the average age at the diagnosis of the first primary carcinoma was 44.5 years. We could not find any relationship between second primary carcinoma and familial history and multicentricity in our study.

The time interval between the first and second primaries was up to the sixth year in 85% of cases in Egan's series<sup>(8)</sup> and by the seventh year in Bailey's series.<sup>(16)</sup> In our study, the mean time between the two carcinomas is 4.8 years which indicates the need for careful follow-up for the first 7 years.

Mammograms of all our second primary breast carcinoma demonstrated masses with spiculated or unsharp margins while metastases to the breast are usually discrete nodules and cannot be differentiated from benign nodules such as cyst or fibroadenoma.<sup>(17)</sup>

Most of the second primary carcinomas in our study were symptomatic and positive on physical examination, even in the one asymptomatic case when retrospective physical examination was performed. Mammography is effective for detecting the second primary breast carcinoma before it becomes clinically detectable. We propose that patients who have had ipsilateral breast carcinoma

should have periodic clinical examination and mammography for surveillance of the opposite breast after the treatment of primary breast carcinoma for at least 7 years after the first primary carcinoma.

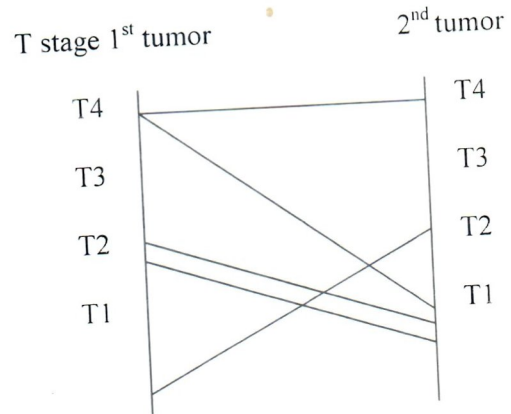


Table 3. Comparing T stage of the first and second primary tumor at diagnosis. Each line represents one patient

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