

Breast Cancer Presenting as an Axillary Mass

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Experience with breast cancer presenting as an axillary mass in 42 patients has been reviewed according to initial clinical findings, treatment and survival. In the absence of an obvious inflammatory lesion, an axillary node may prove to be the first sign of breast cancer. It has been demonstrated that such a node should be biopsied and if positive for adenocarcinoma, a radical mastectomy performed presuming other primary sites have been ruled out. The survival rate after surgery in this group of patients is better than in those who present with a palpable breast mass and have axillary metastases.

PERSISTENT discrete axillary adenopathy among adult females with no obvious inflammatory lesion frequently proves to be the first sign of either malignant lymphoma or metastatic carcinoma.

The primary site of cancer may not be detectable in cases of metastatic lesions proven by biopsy in spite of thorough clinical and diagnostic examination. When pathological examination of a lymph node biopsy reveals metastatic adenocarcinoma, the most likely primary site is the breast. Other sites that are considered are melanoma, thyroid, lung, gastrointestinal tract, kidney and ovary.

Since Halstead¹ (1907) reported three cases of occult carcinoma of the breast presenting as an axillary mass, approximately 100 similar cases have been reported in the literature.

Material

During a 30-year period, from 1946 to 1975, at Memorial Hospital, 42 patients with potentially curable breast cancer presented with an axillary mass which proved to be metastatic adenocarcinoma without significant clinical findings in the breast. Six patients had carcinoma in the contralateral breast either previously or simultaneously. Three patients who underwent biopsy of an axillary mass elsewhere and who were then referred to Memorial Hos-

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pital for definitive treatment have also been included in this study. All patients were female. Thirty-nine patients were Caucasian and three were Negro. Ages ranged from 31 to 75 years, with an average age of 51.3 years (Fig. 1). Nineteen patients were nulliparous and 23 were parous. Five patients had a strong family history of breast cancer.

Signs and Symptoms

The presence of an axillary mass was the only symptom which caused the patients to seek medical attention. In 27 patients the axillary mass had been discovered less than one month before examination and two patients had been aware of the mass for more than one year. The size of the axillary mass ranged from 1 cm to 6 cm, with an average of 4 cm in diameter.

Clinical examination revealed that 26 patients had no findings in the breast, 7 patients had minimal thickening, and 9 patients had vague masses. Mammography was obtained in 25 cases. Twenty-two were reported as negative (88%) and 3 were suspicious for carcinoma.

Treatment

Thirty-nine patients underwent a diagnostic biopsy of an axillary mass at Memorial Hospital and slides of 3 previously biopsied lesions from other hospitals were submitted for review. Pathological examination of all biopsy specimens revealed metastatic adenocarcinoma. All suggested mammary origin, although in 4 instances pulmonary or gastrointestinal primaries were also considered. Three patients had a breast biopsy performed prior to definitive treatment but all were reported negative for carcinoma. After careful evaluation to exclude other possible primary sites, 34 patients underwent radical mastectomy. Among 8 other patients, one had an axillary

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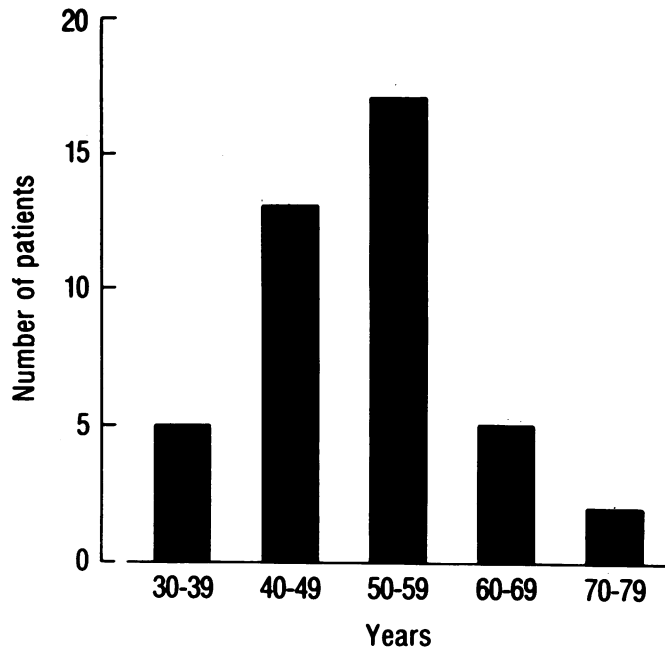


FIG. 1. Ages of 42 patients presenting with an axillary mass.

node dissection, 3 received radiation therapy to the axilla, 2 had a modified radical elsewhere, and 2 patients refused surgery and were lost to follow up thereafter (Table 1).

Pathology

The pathology reports of the 34 mastectomy patients are shown in Figure 2. None of these specimens had ectopic mammary glands in the axillary contents and in each case the axillary lesion appeared to be metastasis rather than a primary tumor.

Regarding the sizes of the primary lesions, approximately $\frac{1}{3}$ were less than 1 cm in diameter, $\frac{1}{3}$ measured between 1 and 2 cm, and $\frac{1}{3}$ were larger than 2 cm.

Review of the non-neoplastic breast tissue in the mastectomies usually showed minimal fibrocystic changes or atrophy. When present, hyperplasia was not conspicuous or atypical.

Information about the location of the primary lesions is incomplete, either because it was not recorded or because the carcinoma was not grossly apparent. Among 7 cases where location was indicated, 5 were in the upper

TABLE 1. Treatment

Radical mastectomy	34
Modified radical	2
Radiation	3
Axillary dissection	1
Surgery refused	2
Total	42

outer quadrant, one was subareolar and one was in the upper inner quadrant.

The axillary metastases were greater than 2 mm in diameter in all cases and thus each patient had at least one macrometastasis. The number of lymph nodes containing metastases ranged from one to 13 and virtually all were macrometastases.

In 28 patients an additional metastatic lymph node was found; 6 in the lower axilla (Level I), 13 in lower and mid-axilla (Level II), and 9 high in the axilla (Level I, II, and III).

Six patients underwent bilateral mastectomy. In two of these cases we cannot exclude the possibility of metastasis from the contralateral breast. Four cases were bilateral primary carcinomas.

Survival

Twenty-six patients of 34 who underwent radical mastectomy are alive and well 6 months to 16 years post-operatively. Two patients are N.E.D.* after 5 years, and 11 are N.E.D. after 10 years. Three patients died of other causes. One patient was lost to followup. Only 3 patients died with breast carcinoma 5 years after radical mastectomy. One patient died 16 months after occult breast cancer was found. However, this was presumed to be from advanced carcinoma of the other breast (Table 2). Actuarial 5 year and 10-year survival rate among patients who had additional positive axillary nodes was 79%. Whether a primary tumor was found in the mastectomy specimen or not, the survival rate remains the same.

One patient who received radiation therapy died after 22 months but two other patients who received radiation therapy are alive and well after 6 months and 44 months,

* N.E.D. = no evidence of disease.

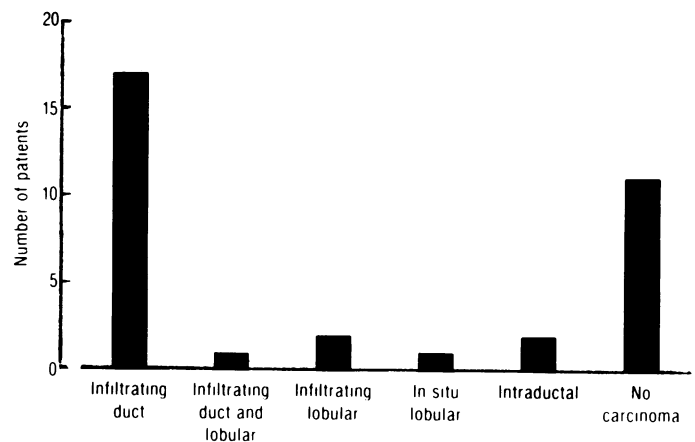


FIG. 2. Pathology of 34 patients treated by radical mastectomy.

TABLE 2. Nodal Status vs Survival in 34 Patients Treated by Radical Mastectomy

Nodes	Survival (Years)		
	<5	5	10
Negative	6	0	2
Positive at:			
Level I	2	1*	2
Level I & II	4§	1*	7†
Level I, II & III	3	4*†	2†

* One patient died of breast carcinoma.

† One patient died of other causes.

§ One patient lost to followup.

^{||} One patient died of advanced carcinoma in other breast.

respectively. The one patient who underwent axillary node dissection is also doing well after 8 years.

Discussion

In 1956, Pierce et al.² reported that biopsy of a persistently enlarged axillary lymph node might identify an otherwise occult neoplastic disease. From his experience, 69.5% were non-specific changes including inflammatory and hyperplastic nodes. 13.9% were lymphoma, 6.9% were granulomas and 9.7% were metastatic carcinoma.

Fieuerman³ reported 14 cases of metastatic adenocarcinoma in an axillary lymph node, 10 of which were metastatic from the breast, one from the pancreas, one from the stomach, and one from the lung. No primary disease was found in one patient.

Since the literature contains approximately 100 similar cases of occult breast cancer presenting as axillary metastases, this type of lesion is quite rare. These patients were of the usual breast cancer-bearing age, an average of 51 years. All presented with a mass in the axilla of a few months duration with or without significant clinical findings in the breast. The average size of the mass was from 4 cm to 5 cm in diameter. Only 12% of the preoperative mammograms were positive in our study. However, Westbrook⁵ reported 50% were positive or questionable at M. D. Anderson Hospital. Pathological examination of most of the reported mastectomy specimens revealed small cancers, Primary comedo

type⁴, or early cancer.⁵ No primary was found in 10 of 25 cases reported by Owen, three of 12 cases reported by Westbrook and 3 of 10 reported by Fieuerman³ after careful pathological examination.

Why do clinically obscure and histologically early cancers metastasize to regional lymph nodes? Wanebo and Urban⁶ recently reported metastasis to an axillary lymph node in 11 of 162 patients with minimal breast cancer. Gallager and Martin⁷ have presented through histochemical evidence that breast cancer, while still in the intraductal stage, can metastasize to regional lymph nodes. There is some electron microscopic evidence found by Ozzello⁸ that is relevant here; namely that in lesions which look like intraductal or in situ cancer with the light microscope, it is possible to find cells which have penetrated the basement membrane. The prognosis of the previously reported cases was better than those with palpable breast cancer and axillary metastases, after radical mastectomy. In our study no patient died with breast cancer within 5 years after radical mastectomy. Of 19 patients treated by radical mastectomy only 3 patients died of disease after 5 years.

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