

POSTRADICAL - MASTECTOMY PARASTERNAL MASS *

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In 1922 Sampson Handley¹ demonstrated the possibility of metastatic involvement of the internal mammary lymph nodes in carcinoma of the breast. Since 1947 removal of the internal mammary lymph nodes has been performed by various doctors using various techniques, either as part of the surgical treatment itself^{2,3,4} as in the so-called super-radical mastectomy, or as a means of determining operability in mammary carcinoma.⁵

The significance of a parasternal mass in a patient with breast carcinoma has also been discussed in detail by Haagensen.⁵ The incidence of internal mammary lymph node metastases was found to be 30.4 per cent in Haagensen and Obeid's⁶ series of 500 cases of mammary carcinoma in which biopsies were performed to determine operability. The incidence of this condition was 43 per cent in the author's series of 35 cases.⁷ In this series, regional lymph node biopsies were performed according to the Haagensen-Stout criteria.⁵ These data indicate that internal mammary lymph node metastasis is not uncommon in breast carcinoma. In cases of postradical-mastectomy, however, a parasternal mass which is the clinical manifestation of advanced internal mammary metastasis is quite rare. Even rarer are the data in the literature about this form of metastasis. The only paper on this subject, as far as the author knows, was written by Sanger.⁸ In his article he presents eight cases in detail. However, he does not mention the number of postoperative cases out of which the eight cases of metastases arose.

Within the last four years, the author has examined 48 postradical-mastectomy patients personally. All of these patients had been operated on in various hospitals by various surgeons, and had come to the author for postoperative check-ups.

Since the author selects his own cases according to Haagensen-Stout's clinical criteria of operability and performs regional lymph

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node biopsies in the suspected cases, the patients who were operated on by the author himself or those under his supervision are not included in this series. Three patients with parasternal masses were seen among the 48 postradical-mastectomy patients mentioned above. The author believes that the incidence in this small group (6 per cent) reflects accurately the incidence of parasternal masses among those patients who undergo radical mastectomy for breast carcinoma without previous determination of operability.

Case Reports

Case 1: M.A., a 35 year old married woman had had a left radical mastectomy two years and seven months prior to examination at our hospital. The carcinoma arose during the course of her eighth pregnancy, eleven months prior to her operation. Four months after her operation, she developed a firm nodule at the caudal end of the incision scar, as well as an axillary lymph node. According to the patient, both the nodule and the axillary lymph node were almost 5 cm in diameter. She was given radiotherapy at another hospital. After this treatment the local recurrence disappeared completely, and the axillary lymph node diminished in size to 1 cm. However she developed another local recurrence five months after treatment and was given a second course of radiotherapy. She continued another four months without complaints. At the end of this period, she noticed a painless, firm, left parasternal nodule. She came to us six months after she first noticed this nodule, and presented a firm fixed mass at the left parasternal area, measuring 12 cm transversely, 10 cm vertically, and protruding 4 cm from the chest wall (Figure 1). The overlying skin of the 8 by 8 cm central part of the mass had a dark purple color and showed superficial ulcerations. Although the mass seemed to be located at the left parasternal area, palpation revealed that it had invaded the midline and the right parasternal area as well. No lymph



Figure 1. Firm fixed mass at the left parasternal area, 12 cm by 10 cm. Note dark purple color of the central portion of the mass and superficial ulcerations.

nodes were palpated in the supraclavicular regions or in the axillae. Aside from this direct invasion by the left parasternal mass, the right breast was found to be negative.

An oophorectomy was performed and the patient referred to radiotherapy.

Case 2: E.A., a 55 year old widow, had had a left radical mastectomy 14 years prior to being seen by us, at another hospital. However, the onset of the disease goes back 10 years before the operation. She had had 12 pregnancies with 10 deliveries and two abortions. She had nursed her children two to three years and was nursing a child when she first noticed her disease. Physical examination revealed a firm, painful mass at the right parasternal area which had been increasing in size for the last three months (Figure 2).



Figure 2. Firm mass of the right parasternal area.

No evidence of local recurrence was noted except for two suspicious, firm, mobile lymph nodes in the right axilla. The supraclavicular areas and the right breast were negative for any pathological findings. A chest x-ray revealed widespread pulmonary metastases on both sides.

Because of the counterlateral localization of the parasternal mass, a biopsy was performed. The original biopsy slide was obtained and compared with the current biopsy, and the two specimens were found to be almost identical. This and the absence of any tumor in the right breast strongly indicated that the parasternal mass was a metastasis from the left breast carcinoma which had been operated on 14 years previously. The question as to why the ipsilateral internal mammary lymph nodes did not form a left parasternal mass could not be answered.

The patient was referred to radiotherapy.

Case 3: A.M., a 35 year old married woman, had had a right radical mastectomy two years before for carcinoma of the breast. Nineteen months after this operation, she noted a small, painless nodule on the right parasternal area which had increased to its present

size of 4 by 3.5 cm, and elevated 2.5 cm from the chest wall (Figure 3). The mass was fixed at the level of the third and fourth interspace. A firm, mobile clinically involved lymph node was found in the right supraclavicular fossa, 1.5 cm in diameter. Otherwise, no evidence of local recurrence or distant metastases were noted.

The patient was referred to radiotherapy.



Figure 3. Nodule of the right parasternal area, 4 cm by 3.5 cm, and elevated 2.5 cm from the chest wall.

Discussion

A parasternal mass is the protrusion of an internal mammary lymph node metastasis through the corresponding interspace. If such a mass exists preoperatively, the case is considered inoperable.⁵ If it appears post-operatively, no matter how long after the operation, it indicates that at the time of the operation the case was inoperable, according to Haagensen and Stout's criteria.⁵ Regional lymph node biopsies, where indicated, may prevent such futile operations.⁵⁻⁷

Summary

Three cases of patients with parasternal masses which appeared at various times after radical mastectomy are presented in this paper. The importance of regional lymph node biopsies in mammary carcinoma is emphasized.

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