Diagnostic Methods in Breast Cancer

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The curability of breast cancer can be increased by efforts at early diagnosis using mammography, self-examination of the breast and periodic examinations in a cancer screening program. We have studied a triple diagnostic approach that combines clinical examination, mammography and fine needle aspiration biopsy in women with breast symptoms and have found that diagnostic accuracy is increased, breast cancer is diagnosed earlier, treatment is better planned, radical surgery is usually possible without preliminary open biopsy, precancerous lesions are detected, high risk groups of patients are identified, and surgical biopsy of benign lesions can be avoided in many patients.

Current data indicate that long-term survival of women with breast carcinoma is still not better than 30%. The reason for this low survival rate is probably that the majority of breast cancer patients already have clinically occult distant metastases at the time of diagnosis and treatment. “Early diagnosis” when the carcinoma is still a localized disease is probably one way to reduce mortality. It has been shown that a substantial reduction of the number of cases with axillary lymph node metastases occurs when breast carcinoma is diagnosed at an asymptomatic stage and even more so if the tumor is clinically occult [1, 2]. This means that clinical examination must be supplemented by other methods of diagnosis. At present mammography and thermography are widely used to complement clinical examination.

Mammography

Modern techniques for soft tissue radiography of the breast have been evaluated by Egan [3] and Gershon-Cohen [4] in the United States and by Gros [5] in Europe. The technical developments in this field have been dramatic and include different forms of equipment for conventional film mammography and electrophotographic methods such as xeromammography. Special low dose techniques have been developed. The value of mammography is well documented [6–9].

Thermography

This method is now routinely used both as a diagnostic test in women with breast symptoms and as part of a screening procedure. Many enthusiastic reports of its value have been published [10, 11]. However, we have found no place for thermography in the diagnosis of women with breast complaints [9, 12], and Jakobsen et al. [13] did not find it of value in screening asymptomatic women. Today, thermography is not used in Sweden as an aid in breast cancer diagnosis.

Self-examination of the Breast

Cancer education programs, in which women are advised to palpate their breasts regularly, have resulted in some women seeking treatment earlier than
they otherwise would have done. This probably conveys a better prognosis on their disease [14]. In our own series of women with breast cancer no less than one-fifth had discovered their lesions either by regular self-examination or by some form of breast examination by a physician [15].

**Cancer Detection Clinics and Screening Programs**

Periodic examinations with one or more methods of diagnosis are performed at several centers and many authors have reported good results with such screening [1, 16, 17]. The optimal way to diagnose...