

Early diagnosis of breast cancer: Experience in a consultant breast clinic

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Of 2839 women referred to a consultant breast clinic for clinical, mammographic and thermographic examination, 480 underwent biopsy and 126 were found to have cancer.

Ten percent of the tumours were occult and were classified as very early biologic disease; they were identified at routine mammography in women whose breasts were clinically normal. Biopsy of solid mass lesions non-suspicious on mammography identified 70% of the cancers; half these lesions, classified as early biologic disease, were discovered by doctors at routine equal clinical breast examination, though the earliest cancers were detected by women who were confident and competent in monthly self-examination of the breasts.

Biopsy of solid mass lesions suspicious on mammography identified 70% of the cancers; these were classified as late biologic disease. Skin or nipple dimpling or retraction was evident in one third of the patients; their lesions proved to be later biologically than lesions of the patients without clinical signs, and 75% had discovered their lesions themselves accidentally.

Sur 2839 femmes dirigées vers une clinique de consultation spécialisée dans l'examen du sein, pour évaluation clinique, mammographique et thermographique, 480 ont subi une biopsie, et un cancer a été décelé chez 126.

Dix pourcent des tumeurs étaient occultes et ont été classifiées comme pathologies très précoces; elles ont été identifiées par mammographie systématique chez des femmes dont les seins étaient normaux selon l'examen clinique. La biopsie des lésions tumorales non suspectes à la mammographie a permis d'identifier

20% des cancers; la moitié de ces lésions, classifiées comme pathologies précoces, a été découverte par les médecins à l'examen clinique annuel des seins, bien que les cancers les plus précoces aient été décelés par des femmes qui étaient capables de réaliser avec confiance sur elles-mêmes un examen mensuel des seins.

La biopsie des lésions tumorales suspectes à la mammographie a identifié 70% des cancers; ceux-ci ont été classifiés comme pathologies tardives. Un repli ou une rétraction de la peau ou du mamelon était évident chez deux tiers des patientes; leurs lésions semblaient biologiquement plus tardives que les lésions des patientes sans signe clinique, et 75% avaient découvert elles-mêmes accidentellement les lésions.

It has been estimated that breast cancer will develop in 1 of every 15 American women.¹ In any given closed population a substantial number of women — perhaps 10 per 1000² — have undetected carcinoma of the breast. The only available diagnostic tools that possibly can be used in all women at risk are clinical examination, mammography and thermography.

In an attempt to assess the effectiveness of these tools in diagnosing breast cancer earlier, a consultant breast clinic was opened at St. Michael's Hospital, Toronto in July 1972. The experience at the clinic is presented in this paper.

Patients

Up to January 1976, 2839 women of all ages had been examined at the clinic. All had been referred by their physician because of fear of breast cancer, pain, suspicious clinical findings or high-risk factors — previous breast cancer, a family history of the disease, first term pregnancy after age 30 or nulliparity, or previous breast operation for benign disorder. Many just wanted to make sure that they did not have breast cancer.

Diagnostic procedures

All patients were examined clinically and thermographically by one of us (L.J.M.). Their mammograms or xeromammograms were interpreted by one of three radiologists experienced in the

technique, and the findings of the three modalities were correlated while the patient waited (approximately 3 hours). If necessary in order to make a decision further examinations were conducted. Of the 480 biopsies performed, cancer was identified in 126.

Clinical examination

For years clinicians have taught students the importance, when examining a woman with a lump in the breast, of demonstrating very early signs of malignant diseases — namely, the slightest dimpling or retraction of the skin or nipple. Until relatively recently we were unaware that by the time such "very early signs" had become demonstrable the malignant cells that constituted the primary tumour in the breast had been growing slowly for years and the disease was biologically well advanced.^{3,5} Unintentionally we also were implying that if such "very early signs" were absent the lesion was probably benign and biopsy was not urgent. This has led to unnecessary delay in the identification of women with early breast cancer. We have dealt with the problem by adhering rigidly to the following guidelines:

Clinical indications for biopsy:

1. Any discrete nodule.
2. Nipple discharge, whether bloody or not, localized to one quadrant.
3. Eczema or ulcer of the nipple.

A mass lesion in a woman's breast (a discrete lump or nodule) should be considered cancerous until proven otherwise. If, by means of fine-needle aspiration, the lesion is found to be solid, it requires biopsy excision; such lesions include all "typically benign fibroadenomas".

Many women have normally "lumpy" breasts. Identifying a mass lesion in such a patient is a great problem. Sometimes a decision can be made only after repeated clinical examination at 6-week or 3-month intervals.

Radiography

Film mammography and xeromammography are two techniques for producing soft-tissue images of the breast with x-rays. Competent radiologists can use either technique to demonstrate lesions in the breast that are impalpable yet prove to be cancerous when the

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