

Methods for Detecting Locally Recurrent and Contralateral Second Primary Breast Cancer

The author has studied the roles of thermography, mammography and breast self-examination in detecting recurrent primary cancer or a second primary in the contralateral breast. Of 273 patients whose primary cancer was treated by lumpectomy, recurrence developed in 52 (19%); 51 were detected on clinical examination and 1 by mammography alone. None were detected by thermography alone. Of the 51 patients with a local recurrence detected clinically, 35 had undergone repeat mammography before biopsy. A change suggestive of a malignant condition was noted in only 15 (43%). Thirty-seven had adequately stable postoperative thermograms for review. Only 9 (25%) of these thermograms showed a change in pattern before or at the time the recurrence was detected. Similar results were found in the detection of a secondary primary in the contralateral breast in these patients and also in a further 193 women whose primary cancers were treated by total mastectomy during the same period. Close clinical supervision is the most efficient method of detecting local recurrence and contralateral second primary breast cancer.

L'auteur a étudié le rôle respectif de la thermographie, de la mammographie et de l'auto-examen des seins dans la détection des récurrences de cancers primitifs ou de l'apparition d'un second cancer primitif dans le sein contralatéral. Sur 273 patientes dont le cancer primitif fut traité par tumorectomie, une récurrence est apparue chez 52 (19%); 51 ont été décelées à l'examen clinique et 1 à la mammographie seulement. Aucune n'a été décelée par thermographie seulement. Sur les 51 patientes dont la récurrence locale avait été décelée cliniquement, 35 avaient subies une mammographie de contrôle avant la biop-

sie. Un changement indicatif d'un cancer fut observé dans seulement 15 cas (43%). Trente-sept possédaient des thermographies postopératoires suffisamment stables pour être étudiées. Seulement 9 (25%) de ces thermographies présentaient des changements caractéristiques avant ou juste au moment où la récurrence fut décelée. Des résultats similaires furent obtenus chez ces patientes en ce qui concerne la détection d'un deuxième cancer primitif dans le sein contralatéral et chez 193 autres femmes dont les cancers primitifs furent traités par mastectomie totale au cours de la même période. Une surveillance clinique étroite constitue la méthode la plus efficace de détection des récurrences locales et des seconds cancers primitifs du sein contralatéral.

Local recurrence in the breast occurs in 25% of women after lumpectomy for primary surgical treatment of breast cancer. This rate can be reduced with adjuvant radiotherapy to the breast postoperatively.^{1,2} In this study I assessed the roles of thermography, mammography and breast self-examination in detecting such local recurrences over a 10-year period. A similar study was carried out on patients in whom a contralateral second primary breast cancer developed after either lumpectomy or total mastectomy as primary surgical treatment.

Methods

All women whose primary breast cancer was treated by lumpectomy were kept under rigid clinical supervision — every 3 months for the first year, every 4 months for the second year, every 6 months to the fifth year and annually thereafter. All were instructed in breast self-examination and their technique was

reviewed by the surgeon at each clinical visit. All who were 40 years or older underwent mammography preoperatively and every 2 years postoperatively. If a local recurrence was detected clinically less than 1 year after operation, mammography was not repeated before biopsy. If the tumour was detected clinically 1 year or more postoperatively, mammography was repeated before biopsy unless a repeat mammogram had been obtained within the previous 6 months. All patients underwent thermography preoperatively and a baseline thermogram was obtained postoperatively, usually at 1 year and annually thereafter. If a local recurrence was suspected clinically, thermography was repeated before biopsy. Increased heat at the lumpectomy site persists for some months postoperatively and stable baseline thermograms are usually not obtainable for 6 to 12 months after operation. If the patient has had adjuvant radiotherapy to the breast after lumpectomy, markedly increased heat emission may persist for years.

Women whose primary breast cancers were treated by total mastectomy were closely monitored clinically and their technique of breast self-examination was reviewed in the same manner as those treated by lumpectomy. Thermograms of the remaining breast were obtained annually and mammograms every 2 years. If a new primary in the remaining breast was suspected clinically, thermography was repeated before biopsy. Mammography

Table II—Method of Detecting Contralateral Primary Breast Cancer in 17 Women

Method	No.	%
Clinical examination	17	100
Mammography	7	41
Thermography	3	18

Table I—Method of Detecting Local Recurrences

Method	No./total no.	%
Clinical examination	51*/52	98
Mammography	16/36†	44
Thermography	9/37‡	24

*1 patient had a clinically occult local recurrence detected by mammography only.

†26 patients did not undergo repeat mammography at the time of biopsy.

‡25 patients did not have stable postoperative baseline thermograms for comparison at the time of biopsy.

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