Operable Breast Cancer:  
The Case Against Conservative Surgery

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In the past dozen years, a series of articles by Dr. Crile have been published condemning the use of standard radical mastectomy as the operation of choice for most patients with breast cancer and advocating more conservative procedures.1,2,3,4,5,6 During this period there has been a trend toward the election of increasingly more conservative operations, from mastectomy with dissection of the lower two thirds of the axilla, to simple mastectomy and finally to axillary dissection. The latter has recently been suggested as appropriate for one third of the patients with operable breast cancer.

A mass of statistical data has been offered in support of this thesis, which on casual or superficial reading appears plausible. But when these statistics are examined with anything approaching analytic detachment and objectivity, it is abundantly clear that far from furnishing support for a policy of conservative surgery, they provide a very forceful argument against it and in favor of radical mastectomy.

This seeming paradox appears to be a consequence of a consistent and easily demonstrable bias; the end results of favorably selected, conservatively treated patients are compared with less favorably selected, radically treated patients.

Since Dr. Crile’s influence in this area is considerable and since this doctrine is being pursued with great zeal and pertinacity, it seems imperative that the unsubstantial and illusory character of the supporting statistics be brought out.

This is not an academic matter. Each year approximately 80,000 women in the United States are victims of breast cancer; even a 15 percent difference in survival between one treatment method and another can mean the difference between survival and failure to survive for 1,200 women per year. Perusal of Dr. Crile’s reported figures clearly demonstrates that survival rates following conservative treatment fall short by at least 15 percent of those reported from many centers where radical mastectomy is employed as the treatment of choice for most operable breast cancers.

Simple Mastectomy

In a recent paper, Dr. Crile reports 10-year end results in a series of 226 patients with breast cancer operated on between 1955 and 1959.3 One hundred and thirty-three patients were treated by simple mastectomy; the remaining patients were usually treated by mastectomy and axillary dissection or, less frequently, by standard radical mastectomy. Only 57 percent of the radically treated patients had Stage I disease as compared to 76 percent of the patients treated by simple mastectomy—an initial, and very substantial, bias in favor of the simple mastectomy group. In an ear-

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lier paper, which compared the end results of simple mastectomy versus the radical operation, 84 percent of the simple mastectomy patients had Clinical Stage I disease as compared to only 61 percent of the radically treated patients. This type of favorable case selection, however, is not the full extent of the bias; 25 percent of the tumors in the simple mastectomy group were less than 2 cm. in diameter in contrast to only 7.5 percent in the radical mastectomy group. The footnote to Table 2 in still another paper reveals that 96 percent of patients with tumors less than 1.5 cm. in diameter were allocated for treatment by simple mastectomy. It must be remembered that not only are the results of treatment in this group enhanced by such favorable selection, but also that the results in the radically treated group are unfavorably influenced by the subtraction of these "favorable" patients.

The 10-year survival rates for Dr. Crile's 226 patients with breast cancer operated on between 1955 and 1959 are shown in Table I.

Obviously, in any treatment center where patients are treated by two different methods, one conservative and one more radical, favorable case selection can favorably influence the results in one group at the expense of the other. In such a circumstance, the true effectiveness of a treatment policy must be based on the total salvage in all cases treated by both methods. Dr. Crile's 10-year survival rate for all cases is easily calculated from his figures: 36.5 percent. Comparison of this survival rate with results reported from treatment centers in which radical mastectomy is the primary method employed is shown in Table 2. (See page 332.) There is an obvious and massive advantage for the radically treated patients.

Further evidence of the poor performance record of conservative procedures is its conspicuous failure in those patients with more than minimal axillary node involvement. In Dr. Crile's series of 226 patients, he reports only a single patient with more than four involved nodes who is alive and free of disease at

| Author | Method of Treatment | Number of Cases | Surviving 10 Years |
|--------|---------------------|-----------------|--------------------|
| Crile  | Simple Mastectomy   | 133             | 41%                |
| Crile  | Modified Radical Mastectomy | 93 | 30% |

At first glance, the superior survival rate of the patients treated by simple mastectomy seems impressive, but surely some comment is needed to explain why these radically treated patients yield a survival rate of barely half that reported from many treatment centers in which radical mastectomy is the standard treatment of choice.

In our series of an identical number of patients treated by radical mastectomy, 10 or 19 percent of 53 patients with more than four nodes involved have survived more than 10 years without disease. Haagensen has reported a 22 percent survival rate for Stage A patients with four to seven involved nodes and 18 percent for those
with more than eight involved nodes and 35 percent and nine percent respectively for Stage B patients.\textsuperscript{13}

Local excision

Local excision for selected patients with operable cancer of the breast has been advocated in several recent publications.\textsuperscript{3,4,5,6} It has also been suggested that this limited surgery may be appropriate for one third of the patients with operable tumors.\textsuperscript{5} However, Dr. Crile has employed local excision as the single form of treatment in only 25 or 5.5 percent of 406 patients treated between 1957 and 1966.\textsuperscript{4}

The most noteworthy feature of these reports is again the extreme degree of favorable case selection. Dr. Crile states that: "... the decision to use local excision usually was based on the presence of a relatively small carcinoma located in the periphery of the breast, preferably in either the upper, outer or lower quadrants.\textsuperscript{12,2} In a March 1972 paper, the average diameter of the lesion in 49 patients treated by local excision is 2.1 cm.\textsuperscript{4} This figure includes 13 patients with Stage II cancer—an inclusion which introduces an element of confusion since it is suggested that the operations in this group were principally palliative. Excluding these, there would seem to be very little doubt that the average size of the Stage I tumors is less than 2 cm. in diameter.

Although the number of patients with Stage I disease followed for 10 years is small, it is, nevertheless, noteworthy that only 42 percent of this highly selected and extremely favorable group of patients with Stage I tumors (some also had axillary dissection) were alive at the end of 10 years.

This figure must be compared with those showing survival rates of 55 to 59 percent for completely unselected patients in all operable stages treated by radical mastectomy. (Table 2.)

By encouraging women with breast cancer to demand a choice in the selection of an operation with such poor statistical support,\textsuperscript{6} Dr. Crile is not only imposing on patients the burden of a decision which they are totally unequipped by knowledge and experience to make,

| Author         | Method of Treatment | Stage               | % 10 Year Survival |
|----------------|---------------------|---------------------|--------------------|
| Crile\textsuperscript{5} | 133 Simple; 93 Mod, Radical | I and II            | 36.5               |
| Payne, et al.\textsuperscript{7} | Radical Mastectomy | All Operable        | 55                 |
| *Finney, et al.\textsuperscript{8} | Radical Mastectomy | All Operable        | 55                 |
| Robbins\textsuperscript{9} | Radical Mastectomy | All Operable        | 59.1               |
| **Haagensen, et al.\textsuperscript{10} | Radical Mastectomy | Columbia A, B, C    | 55                 |
| ***Anglem & Leber\textsuperscript{11} | Radical Mastectomy | Columbia A, B, C    | 57                 |

*Based on Life Table Method,
**Stage D patients eliminated,
***Previously reported figure of 60% was for Stage A and B only.
but is recommending a policy which is bound to result in the election of inappropriate and totally inadequate operations for a large number of women.

With respect to local excision in particular, we find ourselves in complete agreement with the critical response of Langlands and Hamilton to Dr. Crile’s report in the journal, *Lancet*: “As a surgeon of international repute, Dr. Crile has a heavy responsibility not to expose his opinions to the possibility of misinterpretation which might encourage others to injudicious surgery which in his own practice is restricted to a very few highly selected patients, one in five of whom even so do not survive five years.” To this we would add: an operation which results in a 10-year salvage rate substantially less than that reported by many treatment centers following radical mastectomy in completely unselected patients and for all operable stages of breast cancer.

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The Support of Science

Although in the past 20 years some scientists were influential in advising the government, the major forces in urging the support of science came from the Congress and citizens testifying before its committees. The support of science, so absolutely vital to our future, has been and must remain the responsibility of society. It is too important and too complex a problem to be left to scientists.

There are two compelling reasons why society must support basic science. One is substantial: The theoretical physics of yesterday is the nuclear defense of today; the obscure synthetic chemistry of yesterday is curing disease today. The other reason is cultural. The essence of our civilization is to explore and analyze the nature of man and his surroundings. As proclaimed in the Bible in the Book of Proverbs: “Where there is no vision, the people perish.”—Arthur Kornberg: The Support of Science. Science, 180: P. 909, 1973.