CANCER OF THE BREAST

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Of all problems confronting the cancer student that of carcinoma of the breast is perhaps of the most far-reaching importance; for nowhere else in the morphology of neoplasms is it so difficult to solve the many knotty problems which confront the clinician. The question would be simple indeed were one able to know whether or not the pathological process was limited to the area of the breast structure. Then and then only is surgery the master treatment. Nevertheless, there are not a few instances where success has followed prompt surgical removal even when one or more chains of lymphatic glands have been found cancerous. Yet how many unfortunate individuals, considered good operable risks, have submitted to careful and scientific surgery only to have rapid metastases supervene. It is in such cases that the keenest clinical knowledge tempered with good judgment is demanded, and this unfortunately is not always to be found when required.

There still exists in the minds of many eminent surgeons a difference of opinion as to what constitutes an operable case of carcinoma of the breast. A number of these have freely expressed the opinion that any tumor which could be removed mechanically should be considered operable. It is this point which the writer desires to emphasize, for he believes that if the error of this attitude received more open medical discussion, it would result in fewer useless operations.

The removal of the breast and glands might, indeed, be mechanically easy, although the case should not be considered operable under the unfavorable clinical conditions which we now recognize. Many hundreds of instances of rapid postoperative recurrences in recent years have made this apparent.

1 An address delivered before the Nevada State Medical Society, Oct., 1929.

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In almost all other cancerous affections of the body, the surgeon, clinician, pathologist, and radiologist have practically reached an amicable agreement as to proper treatment. This refers of course to those parts of the world where the best in medicine obtains. However, when the problem involves cancer of the breast, except in cases where the correct procedure is obvious, no such agreement exists.

In conversation with many leading surgeons, they frequently state that they dread to operate upon a breast, even in the presence of what appears to be a purely localized growth with no demonstrable signs of gland involvement. In other words, many of these surgeons agree with the writer that, with our present methods of diagnosis, it is practically impossible to know whether or not a breast has metastasized. The woman who comes to the surgeon with a recently discovered lump in the breast brings to him the greatest professional responsibility with which he may be confronted.

What is the proper treatment for such a condition? During the past twenty-five years, cancer of the breast has engrossed our own attention more than any other disease with which we have come in contact.

Our office records show that during this time we have treated by radiation approximately two thousand women for cancer of the breast in all stages according to our ability to adapt the mechanical, electrical, and dosage problems which have been evolved as the science has matured. It may rightfully be said that the great majority of these unfortunate women had metastatic cancer and were therefore incurable, as we understand that term.

At the First International Congress of Radiology held in London in 1925, we reported some five hundred and fifty of these patients who had been treated in our clinic and had been observed over a long enough period of time to make our analysis of some value. They comprised the usual classic types treated by surgery and radiation. This report was published in Acta Radiologica, Vol. IV, October, 1925, page 391, and demonstrated that a certain number of examples of breast cancer could be relieved of their disease for 5 years or more by X-radiation alone.
For a number of years the writer has been convinced that treatment of cancer of the breast in all stages would be made more effective by instituting early radiation. This means all cases whether or not surgery is undertaken. We have stated this belief in former communications and up to this writing have found no reason to alter our position. In fact, from more recent observations, the writer believes that if radiation is to be allowed at all in a given case of breast cancer, it should be administered before the operation and not after. This does not mean that postoperative radiation has no value. On the contrary, we believe that postoperative radiation has probably added ten per cent to the so-called clinical or five-year cure of all breast cases operated upon.

There also appears to us reason to believe that this percentage can be substantially increased if every surgical breast case is submitted to the proper dose of radiation prior to the operation.

In more recent years our group has become interested in the use of the endotherm or radio knife as the best agent with which to remove the tumor mass. Whether this type of surgery actually does away with the ordinary danger of cold knife implantation is yet unproved. However, if properly employed, it would at least minimize this danger. There can, however, be no question of its superiority in acting as a dehydrating and sterilizing agent when working in the presence of infection. In our experience we do not recall having seen a postoperative breast cancer which had recurred remain free from further recurrences for more than three or four months after a secondary operation.

On the other hand, during a limited experience with the radio knife, we have seen two patients remain clinically well—one for twelve months and one for twenty-four months after the removal of recurrences with the electrical scalpel.

Many of us have claimed for years that radiation treatment killed cancer cells. Yet we were all unable to explain the modus operandi to those of our profession who demanded proof of our statement.

Not until the famous Canti film was shown was the actual death of the cancer cell under radiation bombardment effectively
demonstrated. The sight was so impressive and its significance so apparent as to incite the imagination beyond safe limits. Fortunately, with greater quantities of radium available, came also the knowledge of the many dangers surrounding its application, so that the agent will probably remain under control and its use be restricted to the legitimate work demanded of it in the hands of those who are by experience fit to handle it.

Since the Canti film was made at Cambridge, it naturally has stimulated the greatest interest among the British medical profession. A committee of well-known surgeons has been formed there for the express purpose of permanently controlling the twenty grams of radium which is now being assembled. It is sincerely to be hoped that these surgeons will seek the proper advice from their radiological colleagues and cooperate with them, in order that this enormous amount of radium will not only have the best distribution, but that its use will be strictly limited to those who have proper professional and scientific knowledge. Otherwise, this powerful weapon may not only fail to render its optimum service, but its ministrations may be followed by irreparable damage.

It is not desired that the reader shall infer from these remarks that radiation treatment has reached a standard of perfection. Far from it. One fact which is universally noted is that some degree of benefit follows radiation treatment of cancer, irrespective of how the treatment was applied or by what specific apparatus, if X-rays were used. Nevertheless, it is quite true that no two radiologists have exactly the same viewpoint as to what actually constitutes a cancer dose of radiation energy.

This is not so strange when one goes into the complex problem of radiology and ascertains how impossible it is to make a simple sliding rule, which will combine all the radiation factors of biochemistry, physics, medicine, and electricity, and apply this to the complex human problem of individual pathology which permits of no accurate measurement. If that could be done, it would be just as easy to compute the exact dose for each patient as it is for the surgeon to remove an accessible and circumscribed superficial nodule. At any rate, we are coming more and more
to the realization that our paths are converging, and with a little more time we may establish at least a minimum standard which will be universally applicable.

Lord Berkeley Moynihan, one of Great Britain's most quoted surgeons (in an address before the clinical staff of the New York Memorial Hospital on September 19, 1929), made the statement that he had been fairly satisfied with results of surgery in carcinoma of the breast up until five years ago. Since then he had become dissatisfied. He was now working in conjunction with his radiologist and expects soon to present his latest results by the exclusive use of radiation in breast cancer. He said he believed these would excel any hitherto published or reported statistics.

He further stated that he himself had not used surgery for the removal of a breast in over a year, and he doubted if he ever again would have occasion to revert to surgery in any type of carcinoma of the breast.

This is a remarkable statement and it will be curious and interesting to note what the reaction of the average surgeon will be when the significance of these remarks is fully appreciated.

From two leading institutions have come very recently statistical reports showing five-year results in breast cancer by surgery only; by radiation only; and by combining the two agents. These reports are not flattering to radiology, as they show that breast cancer of the operable variety recurs just as freely under a combination of pre- and postoperative radiation regime as with surgery alone. They admit, however, of certain palliative benefits in the radiation treatment of recurrences when the conditions are frankly inoperable.

This report is not convincing to many of us who have worked with radiation since its inception and have experienced the various periods of hope and despair, success and failure, which have necessarily accompanied its evolution. We feel that these statistics are not fair to radiology. Radiation enthusiasts have made unwarranted claims. Selfish interests have denied any virtues to radiation. Conscientious physicians, however, have steadily attempted to place the proper valuation upon this agent,
in order that it might take its rightful position in the armamentarium of those who seek that which is best for their patients. We may rightfully question the interpretation placed by the surgeons upon the two statistical reports alluded to.

In one of the reports, some two thousand cases are studied. When the radiologist at this institution was questioned as to why his department had results inferior to those of other recognized radiological centers, he stated that most of the cases from his institution had only the operation there, and that the patients had received their postoperative treatment at various places and presumably at the hands of some who were perhaps not equipped to give the necessary radiation dosage. This fact largely invalidates the statistics quoted.

In the other report, five hundred and fifty-two cases were studied. These comprised the patients who had passed through various recognized hospitals, and covered work done during the years of 1918, 1919, and 1920.

It is a well-known fact among radiologists that there were almost no public institutions ten years ago where adequate radiation was obtainable. Even today the number of otherwise well-qualified hospitals, where complete and scientific radiation treatment may be obtained, are altogether too few.

In at least one of the hospitals quoted it is a known fact that in 1918, 1919, and 1920, no adequate X-ray treatment was possible, as that particular institution was without proper equipment. Hence, these statistics are unreliable as to the value of pre- and postoperative radiation, and we may justly question the value of this report.

It is also interesting to recall that ten years ago surgery had not conceded to radiology preference in the treatment of cancer of the cervix. In fact, at that time, outside of a few progressive medical centers, the use of radium for any purpose beyond superficial lesions was opposed, if not entirely condemned.

If we are to believe the evidence which has slowly but steadily accumulated, radiation today, in the absence of any other apparent curative agent, promises to become the active treatment factor for breast cancer, with surgery as its best and only ally for general reconstructive work.