THE TREATMENT OF CARCINOMA OF THE BREAST*
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IN spite of the enormous amount of work which has been done in every country in the world, there still exists great confusion regarding the best method of treating breast cancer. There is confusion regarding the value of combining radiotherapy with surgery, and even confusion regarding the value of surgery alone. The main causes of the confusion are as follows:

(a) The standard of radiotherapy is very variable. In some centres the dosage may be so low that it is unlikely to be of any value, and even when the level of dosage is adequate the treatment is not always so planned as to take into account the natural routes of spread of the disease. It is therefore not surprising there is considerable confusion regarding the value of radiotherapy in the treatment of breast cancer.

(b) As a general rule surgeons have tended to present the results of only those cases in which a radical mastectomy has been performed; cases regarded as unsuitable for this operation are omitted from the report. Such results are merely a statement of the survival rates of patients treated by radical mastectomy; they provide no indication of the value of surgery in breast cancer. The position is further confused by the fact that the fraction of cases selected for radical mastectomy varies from centre to centre according to the criteria of operability adopted by the centre. This difficulty will not be overcome until it is appreciated that the value of any method of treatment cannot be ascertained from the survival rates of an unknown fraction of the total cases.

In making this statement it is not in any way intended to imply that radical mastectomy should be performed in all patients. It is widely accepted that in patients with advanced disease the operation will do more harm than good. But surely those patients, recognised before operation to be so advanced that radical mastectomy cannot cure them, must be regarded as failures in exactly the same way as patients who have had the operation and who have failed to be cured.

Because the total number of cases referred to a hospital is rarely stated, it is difficult to determine what fraction of the total has been treated by radical mastectomy. From the population of the area

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served by the hospital it is often clear that considerable selection has taken place. When the series presented is a "personal" one these remarks, as a rule, apply with even greater emphasis.

In Edinburgh we have attempted to record all cases of breast cancer occurring in the region served by the hospitals from which the cases are drawn. The population unit is just over one million and in the period 1941-49 we have recorded 2,507 cases or approximately 260 new cases each year. Of this number, 58 per cent. have been placed in the operable category.

### TABLE I

All Women with Primary Breast Cancer recorded in the period 1941-49

<table>
<thead>
<tr>
<th>Operable</th>
<th>Locally Advanced</th>
<th>Distant Metastases Present</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>...</td>
<td>1469</td>
<td>694</td>
</tr>
<tr>
<td>% ...</td>
<td>...</td>
<td>58%</td>
<td>28%</td>
</tr>
</tbody>
</table>

The staging (McWhirter\(^3\)), however, is carried out without regard to age or general health and, if aged and infirm patients are omitted the proportion really suitable for radical mastectomy would be reduced to approximately half the total cases. To obtain the true value of radical mastectomy in breast cancer we must therefore halve the claims which have been made. The more realistic survival rates so obtained demand that we should attempt to develop better methods of treatment.

**Operable Cases.**

There is more information available regarding operable cases, and it is therefore convenient to consider this group in the first place. In every published series of patients treated by radical mastectomy there is a striking fall in the survival rate when the axillary nodes become involved. The explanation for this high failure rate has been provided in recent years. The investigations carried out by Andreassen and Dahl-Iversen\(^1\) and by Handley\(^2\) have been amply confirmed by other workers, and these investigations have shown that, by the time the disease has reached the axilla, the supraclavicular and internal mammary nodes are frequently involved.

Andreassen and Dahl-Iversen have shown that the supraclavicular nodes are involved in 33 per cent. of cases with positive axillary nodes, and Handley has demonstrated that by the time spread has occurred to the axilla, the internal mammary nodes are involved in 48 per cent. of cases. It will be recognised that involvement of either the supraclavicular or the internal mammary nodes will occur in more than 48 per cent. of patients with axillary involvement. Indeed, Wangensteen\(^5\) has shown that either the supraclavicular or the internal mammary nodes may be involved in 60 per cent. of cases where there is axillary involvement. The cause of the high failure rate in the conventional radical operation is thus obvious for, where spread has occurred to the axilla, the operation must fail in at least 60 per cent. of cases.