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A PLEA FOR A MORE LOCAL OPERATION IN REALLY EARLY BREAST CARCINOMA

BY

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(WITH SPECIAL PLATE)

It has long been the teaching of surgeons that carcinoma starts as a local change, perhaps one cell taking upon itself the characteristics and habits of malignancy and, by multiplication, forming the carcinomatous tumour. Such a theory, though impossible to prove, is probably correct. Naturally weeks, perhaps months, must elapse before the multiplication of cells creates a mass large enough to be perceptible. It is longer before it becomes noticeable, and longer still before it assumes the characteristic signs which we associate with malignant disease, such as adherence to the skin, retraction of the breast or nipple, or invasion of the adjoining lymphatic glands. If this is true, then it is logical to suggest that a local operation can eradicate this disease, if performed at a sufficiently early date. Despite this logic, however, surgeons have till lately been shy of any procedure short of a so-called radical operation, and still decry such procedures as unsafe and unsurgical. Those who have been brought up in the atmosphere of the radical operation with no experience of anything less extensive must remember that they are repeating dogma and not speaking from formed judgment. Medicine is never advanced by such action.

Many years ago I made this suggestion and started carrying it out. I was chaffed by friends and taken to task by others for having made it. Lately, however, there has been a swing of the pendulum in the direction of more conservative procedures, especially in the United States, where the radical operation originated, and in 1937 Mr. Keynes published a paper urging local operations on the breast for early carcinoma, though he approached the subject from a different angle. An attempt will now be made to show that not only can the operation be successful, but that in competent hands it can confer the same amount of safety as the more extensive operation, and at the same time the patient has the inestimable advantage of not having to undergo the mutilation of her entire breast.

Early Carcinoma Defined

To begin with, however, early carcinoma must be defined; for that is the crux of the matter, and on that the safety of the procedure depends. An early case of carcinoma in this sense is one in which there is a faintly perceptible something in the breast—hardly a lump and certainly not a tumour. It has no well-marked textbook characteristics of malignancy. It has been said that diagnosis is impossible at this stage; but this is not the case, and the proof rests in the number of minute carcinomata Professor Newcomb has preserved for me in the museum of St. Mary's Hospital. These tumours have one invariable characteristic, which is all-important for diagnosis—they throw a shadow on transillumination with strong light. If such a shadow is seen the tumours, after

excision, will nine times out of ten be found to be carcinomatous, but transillumination is the only method by which they can be diagnosed.

Having, then, laid down the limits of safety for others, I must own that I have not always kept to them. These limits have been overstepped if the skin has just begun to be dimpled, or if there have been doubtful glands in the axilla, in which event the axilla has been cleared at the same time. But cases have not been considered suitable for local operation if two characteristics of malignancy are beginning to show; nevertheless I have still performed it in many such instances. I have little excuse to offer for going outside the limits laid down, except that of natural curiosity in treading a path which to me was unknown, and perhaps urged on by the enthusiasm which imbues all explorers in strange and forbidden fields. These limits have been surpassed, too, in deference to the wishes of the patients who would not tolerate loss of the whole breast.

The Present Series

In all notes have been made of 128 cases. Of these I consider that 93 were quite suitable for the conservative procedure. I find it very difficult to divide up my cases, as naturally one could suppress into the unsuitable class all those which did not have a happy result. Quite large tumours are included and everything of a doubtful or unproved nature has been placed on the debit side of the account, although there is no more reason for placing it on one side than on the other. In many cases the glands were already found invaded, so they were not really in the first stage. Nevertheless they were considered suitable before operation, and it is upon that judgment that they are included here.

I always hesitate to publish medical statistics: taken in the lump they are valueless, and when classified into the different categories the figures are too small to be convincing. I must say at once that never have I been able to produce figures for carcinoma, whether of the breast, the tongue, or the rectum, as satisfactory as those recorded by other surgeons. A perusal of our own figures may, however, surprise those who have no knowledge of the local procedure.

No. of suitable cases	93
Lost sight of	5
Living	62
Dead	26
Living:	
With no recurrences	47
With distant recurrences	3
With local recurrences	12
Dead:	
From intercurrent disease	12
With no local recurrence	11
Having had local recurrence	3

We will consider the categories in that order.

Those Lost Sight Of

Of this group one went to Argentina the same year. One was lost sight of after eight years, as her doctor had died. Three left their districts; the letters were returned, and their doctors could give no help: of these, the first was known to have kept well for one year eight months, the second for three years three months, and the third for nine and a half years, after the operation.

Living

Of the 62 living 47 had no recurrences. The average age of the 47 when first seen was 51.5 years; the youngest was 34 and the oldest 74. The survival table is as follows:

2½ years	1	7 years	5
3 "	8	8 "	1
4 "	8	9 "	1
5 "	2	10 "	6
6 "	9	10 to 15 years	6

The longest survival among those living is fourteen and a half years (one died after twenty-four years). Twelve patients have lived longer than ten years, and eighteen between five and ten years.

Like all successful cases, these possess little interest, as they resulted exactly as was expected. It is hoped to publish them in full elsewhere, together with some 36 unsuitable cases operated on in the same way; I therefore suppress details here. It is the failures and recurrences which form the interesting side of the picture and to which I would rather draw attention.

WITH RECURRENCES

There are 15 living who have had recurrences: 3 have distant but no local manifestations and 12 have local recurrences. The 3 with no local recurrences were:

No. 8.—Aged 32. 5/9/28: mass and glands removed, both carcinomatous. 13/2/36: metastases suspected in bones from x-ray report; treated by x rays. Lost sight of and believed dead. Doctor wrote January, 1939: "She was enjoying winter sports in Switzerland." Survived 10 years 4 months.

No. 15.—Aged 40. 3/3/30: nodule removed, radium. May, 1936: recurrence in the right breast, radium. Survived 8 years 10 months.

No. 42.—Aged 71. 2/4/36: mass removed with glands; carcinoma in breast 2 cm. across. 31/3/38: lump noted six months ago in right breast; removed—carcinoma. Survived 2 years 8 months.

I cannot help thinking that the suspected recurrences in No. 8 may not have been real; otherwise the case is unique in my experience. Everything was against this patient; the glands were involved, and she was only 32 years old. In the last two cases carcinoma appeared in the opposite breast, and in these I have supposed it to be a recurrence and not a carcinoma starting in the other breast. To my mind the doubt only arises after freedom from all signs of the disease for a long period, perhaps ten or fifteen years, when it is impossible to be sure whether the condition is a secondary growth or a tumour starting *de novo*. In No. 15 the interval was six years. Patient No. 102, who died with no local recurrence, also had a metastasis in the opposite breast.

WITH LOCAL RECURRENCE

With regard to the 12 cases which have or have had local recurrence, perhaps it is as well to point out that all suspicious signs have been classed as recurrences and treated as such, though proof may be lacking. Proof was possible only in those operated upon. A good many operations were performed for supposed recurrences which luckily proved negative, and some of those cases treated by radium as recurrences may not have been recurrences at all, but, as they were considered so, they are classed as such. They are as follows:

No. 12.—Aged 48. September, 1927: a small carcinoma removed by her doctor. October, 1928: recurrence removed and axilla cleared; carcinoma in breast. Survived 11 years after the first and 10 years after the second operation.

No. 19.—Aged 53. 1/6/23: discharge from right nipple; mass 1 inch across, removed. 5/5/31: pea-like mass at left nipple, scab on right nipple, both removed; carcinoma right nipple, left side suspicious; radium to right side. 29/4/32: mass left nipple, removed; carcinoma. Survived 19 years.

No. 29.—Aged 43. 8/6/33: mass removed with glands; carcinoma in breast; radium to axilla. 18/7/33: surface irradiation. 7/10/33: millet-seed nodule, surface irradiation. Survived 3 years.

No. 41.—Aged 43. Mass 1 inch across. 13/1/36: removed; carcinoma; interstitial radium. 17/12/36: lump removed from back and nodule from breast; fibroma from back and carcinoma from breast. Survived 3 years.

No. 61.—Aged 37. Lump and discharge from right nipple. 20/1/24: removed; carcinoma. 29/2/28: discharge from nipple, and from September, 1930, to September, 1933, was treated with radium; later nipple was removed and colloid carcinoma found. Survived 15 years.

No. 62.—Aged 32. 17/8/34: mass removed; carcinoma; surface irradiation. 16/1/36: nodule of carcinoma removed from scar. November, 1936, nodule removed; surface irradiation. Survived 4½ years.

No. 63.—Aged 49. 19/12/26: mass removed with glands; carcinoma in both; surface irradiation. 5/4/37: nodule of carcinoma removed from site of drainage tube. 17/11/37: vaginal cough, chest full of fluid; believed to be dying of internal metastases. 25/11/38: put on more than 2 stone, well; radiation to gland in axilla. 22/4/39: putting on weight steadily. Survived 13 years.

No. 89.—Aged 48. 11/1/35: mass 2 inches across removed with glands; carcinoma in both; radium to axilla. 22/10/36: gland removed from axilla; carcinoma. 2/2/37: mass removed from near nipple, non-malignant. Survived 4 years; note size of mass.

No. 94.—Aged 60. 20/9/35: lump removed with glands; carcinoma in both; radium. 27/3/38: nodule now ulcerating through the skin; known for months; radical operation; carcinoma in breast. Survival 3½ years.

No. 105.—Aged 40. 11/3/29: mass removed and reported as adenoma. 17/2/36: two nodules near scar; radium. 14/3/38: fell and broke her arm; very hysterical. 4/1/39: well. Survived nearly 10 years.

No. 108.—Aged 42. Lump for 2 years. February, 1931: removed; carcinoma; radium. 1/5/33: nodule near scar; radium. 12/5/38: spiritualistic and clairvoyant—"God has now cured her." Survived 8 years.

No. 124.—Aged 43. February, 1929: mass removed; carcinoma. April, 1929: glands in axilla; radium. Necrosis of three ribs followed. Survived 10 years.

(All these patients are believed to be living August, 1940.)

The average age of the patients with recurrences was 45 years; the youngest was 32, and there were two of this age; the oldest was 71. The average term of survival to date was 10½ years. The average at which recurrences appeared locally was 2 years 9 months.

Dead

Those who died can be divided into three groups: (1) those dead of intercurrent disease (12 cases); (2) those dead with carcinoma but no local recurrence (11 cases); (3) those dead after local recurrence but not necessarily with or from their local recurrence (3 cases).

DEAD OF INTERCURRENT DISEASE

Those who died of intercurrent disease were as follows:

No. 5.—Aged 54. Nodule removed 8/11/20. A year later the remainder of the breast was removed; searched, but no carcinoma found. Died of appendicitis 18 years later.

No. 55.—Aged 43. 24/2/25: local removal. 12/3/37: a gland removed from axilla; non-malignant. November, 1937: died suddenly of heart disease, survived 12½ years.

No. 59.—Aged 71. 7/5/29: removal; carcinoma in cyst wall. Radium to axilla. Treated for high blood pressure and died of heart failure, surviving 5½ years.

No. 60.—Aged 78. 29/2/30; removed with glands; carcinoma in breast; large uterine fibroid removed at same time; radium. 17/2/37: was well but going blind; died same year, surviving 7½ years.

No. 68.—Aged 75. 14/8/27: removal; remained well till she died of senility, surviving 4 years.

No. 71.—Aged 66. 1/7/30: mass removed with glands; carcinoma in both; radium. 19/10/30: nervous, so remainder of breast removed; no carcinoma found. Died of a stroke, 7/4/37. Survived 7 years.

No. 82.—Aged 94. 5/11/35: removed; carcinoma. Died of myocardial degeneration 18/1/37, aged 96. Survived 1 year.

No. 88.—Aged 41. Mass size of a florin 25/1/35, removed with glands; carcinoma in breast. Died suddenly 5/1/38, subarachnoid haemorrhage. Survived 3 years.

No. 96.—Aged 70. Mass 1½ by ¾ in. removed with glands; carcinoma in breast. She had a bad heart and was given paraldehyde; short operation; but died of heart failure the same evening.

No. 97.—Aged 50. 29/3/13: removal with glands; carcinoma in breast. January, 1930: son wrote to say she had died of "cancer of the colon." Survived 17 years.

No. 98.—Aged 39. "Adenoma" treated for a year by diet and diathermy. 28/5/26: removal; carcinoma infiltrating widely. Glands felt above clavicle. 10/6/29: only one tiny gland felt. 15/6/29: died suddenly; no sign of old disease. Survived 3 years.

No. 100.—Aged 62. Discharge from left nipple. 15/8/32: removal; duct carcinoma. 6/2/35: died of influenza. Survived 2½ years.

The average age of the above 12 patients who died with no trace of the former carcinoma was 62. The youngest was 39, the oldest 94. Their average survival period was seven years, not counting the one who died the day of the operation. The longest survival was eighteen years. In No. 98 the carcinoma was noted as infiltrating widely, but with this exception and that of No. 82, aged 94, whose tumour was large but whose expectation of life could not have been long, all could be classed as in Category 1. Most were early cases, yet 12 out of 91—that is, 13%—died from conditions quite apart from their original disease. Statistics were published lately which recorded that after ten years a surgeon was fortunate enough to have lost only 16% from all causes.

DEAD FROM CARCINOMA

We now turn to 14 patients who died from carcinoma. The 11 who died of carcinoma but with no local recurrence were as follows:

No. 13.—Aged 41. 2/3/25: removal; carcinoma. 10/1/30: losing weight; developed tubercle; went to a sanatorium. From 11 st. 8 lb. she sank to 6 st. and was lost sight of; presumed dead of metastases, possibly tubercle. Survived, known, 4 years.

No. 31.—Aged 40. 20/11/34: pea-like mass removed with glands; radium; carcinoma in both. 24/11/37: metastases in bones; x rays with improvement. 18/3/38: going downhill. Survived 4 years.

No. 54.—Aged 41. Pea-like mass and discharge from left nipple. 9/1/24: removed; carcinoma. 22/3/27: mass at right nipple; radical operation; carcinoma in breast and glands. 6/10/28: glands above right clavicle; radium; glands disappeared. 6/9/29: cough; pleurisy; 40 oz. removed from right chest. Died later. Survived 5 years 8 months from first and 2½ years from second operation.

No. 58.—Aged 49. Mass removed 19/4/28; carcinoma. February, 1931, died; metastases in liver and peritoneum. Survived 2 years 10 months.

No. 67.—Aged 41. 11/4/30: mass removed with glands; carcinoma in both. 5/11/34: treated for rheumatism and colicky pains. 18/11/34: laparotomy; carcinoma internally; ascites. Died January, 1936. Survived 5½ years.

No. 69.—Aged 53. 2/9/30: mass removed with glands; carcinoma in both; radium. 29/2/32: short of breath, vagal cough; x rays with no benefit. Died 23/11/32. Survived 2 years.

No. 70.—Aged 46. 2/9/30: mass removed with glands; carcinoma in breast; radium. 10/7/35: suddenly developed metastases in brain and died. Survived 5 years.

No. 72.—Aged 40. 3/2/30: mass 1 inch across removed with glands; tiny nodule of carcinoma in a mastitic breast; radium. 14/12/31: headaches. September, 1932: died of metastases in brain. Survived 2½ years.

No. 99.—Aged 41. 5/8/25: ? adenoma removed; carcinoma; two weeks later radical operation. 18/5/27: cyst of ovary removed by Mr. Bannister; secondaries found in peritoneum. Died June, 1928. Survived nearly 3 years.

No. 102.—Aged 47. 28/6/26: mass removed; carcinoma, given deep x rays. 5/1/27: a gland removed from axilla; swab left in; later a tube put in; died of secondary haemorrhage. Survived 6 months.

No. 106.—Aged 38. 7/6/29: mass removed from left breast with glands; carcinoma in breast; radium. 1/4/33: right breast carcinomatous; interstitial radium. Radiographs showed femur and vertebrae affected; deep x rays. 30/12/33: died; necropsy showed no trace of carcinoma in left breast. Survived 4½ years.

The average age of these 11 cases was 43; the youngest was 38 and the oldest 53—the only two not between 40 and 50. One died accidentally (No. 102); of the remaining 10 the average survival period was four years. No. 13 was presumed to be dead, but she might be placed among those not traced; she may have died of tuberculosis. Another patient, No. 5, was placed in this series, and was presumed to be dead as she was reported to have metastases in the pelvis and vertebrae when last heard of. However, in January, 1939, her doctor assured me she was enjoying winter sports in Switzerland.

None of these cases showed any sign that the original operation had not been adequate, nor was there any return of the disease locally. If the local operation had not been sufficient one would expect that the disease would have returned locally before the end of the four years of survival. In all probability, therefore, the cells floated off from the primary tumour before the local operation; they almost surely passed to their destination by means of the blood stream. This points to the fact that spread by the blood stream is far more common and dangerous than is generally supposed. The cells which pass along the lymphatics are halted at the glands and can be removed, whereas if they pass by the blood stream they are at once beyond the reach of surgery.

No. 99 had a radical operation performed within two weeks of the local one, but in less than two years a laparotomy showed internal metastases. Here the cells must have floated off at an early date, unless it be asserted that the local operation liberated them. This is unlikely, as it occurred in no other case, and there was no return locally. No. 58 resembled No. 99. Nos. 70 and 72 both died of metastases in the brain, which must have been blood-borne. Post-mortem examination on No. 106 showed no signs of disease in the breast operated upon 4½ years previously.

DEAD AFTER LOCAL RECURRENCE

The 3 who died after having had local recurrences were as follows:

No. 53.—Aged 47. 8/9/10: thought to be mastitis; removed; pathological report was mastitis. Five months later nodules appeared round scar, but she did not report and

have a radical operation till 8/9/11. In 1933 she broke her femur, and died on 14/4/34. Survived 24 years.

No. 60.—Aged 56. 16/1/29: mass removed; carcinoma. I had gone too close to the growth, and part was left behind. Further operation was refused; radon applied. 3/9/29: axilla cleared, carcinoma in glands. 8/10/30: nodule in scar; radium. 10/12/35: nodules on shoulder, back, and abdomen; radium. Died of internal metastases January, 1937. Survived 8 years.

No. 64.—Aged 38. 15/12/24: mass removed with glands; carcinoma in breast. 25/1/27: nodule at nipple for 8 months; removed; carcinoma. 3/10/28: two nodules; radium. 8/5/32: died of internal metastases. Survived 7½ years.

In these cases little help or co-operation was received from the patients. No. 53 knew of her nodules for seven months before she came for advice, though it is true she had been told the condition was simple. After that she evidently wished to forget the whole episode, as she refused examination, nor would she reply to letters. There was no reason to suspect that the fracture twenty-four years later had anything to do with her former disease. In Case 60 I had gone too close to the tumour. The patient and her husband refused to allow me to rectify my mistake. I therefore had to do the best I could: radium could not be obtained, so I had to fall back on radon, a very inferior substitute. No. 64 wasted six months in spite of the fact that four members of her family died of cancer; when she had a recurrence she hid all knowledge of it for eight months.

There are therefore 15 cases in which the operation was not a success. The original lump was removed in 2 cases by the patient's doctor without the slightest suspicion that it was carcinoma, and I removed the mass under the impression that it was mastitic in 3 cases and an adenoma in another. It is only to be supposed that a wider margin would have been taken if the condition had been thought to be carcinomatous.

The reappearance of the growth near the original site is interesting. The average time for reappearance was two and two-fifths years; in only 3 cases was it delayed beyond two and a half years, and in each of these there was quite a long delay (seven years, six years, and seven years). The average time for local reappearance in those who are still living was two years nine months, and was also only exceeded in 3 cases (seven years, six years, and seven years). The average time for the other 12 cases was just a year. This shows that in incomplete operations the fault will usually be discovered at an early date, which is only what we should expect, and if the disease is treated at once radium is able to check it. If no local recurrence takes place it can be assumed that the local operation has been adequate. Whether cells have already escaped from the primary growth is another matter. This is not to say that secondaries will not appear at a later date, even after the most radical operation, for these cells escape from the growth before operation. As time goes on, however, recurrence becomes more rare. If cells have already passed to the glands they will be found there and the glands can be dealt with either by operation or by radium; no other glands can be infected, as the original growth has been removed. If cells have gained the blood stream no operation, however wide, can have the slightest effect upon them; we can only operate on the extrathoracic portion of the disease.

The survival time of the three who died was twenty-four years, eight years, and seven years.

Conclusion

This, then, is the record of 93 cases in which a purely local operation was performed and only a small segment of the breast removed. In many cases casual observation

would not disclose that the breast had been interfered with. It is not necessary to add that after the operation constant vigilance is necessary on the part of the doctor, and equally important is the willing co-operation of the patient. In so many cases this was lacking, and I am afraid will always be. I have put the figures simply, in the hope that the plea for a more conservative procedure in really early cases will be seriously considered.

Summary

An attempt is made to show that local operation in really early cases of breast cancer can confer the same amount of safety as the more extensive operation.

The diagnosis of early carcinoma suitable for employment of the conservative method is described.

Notes are given of 93 such cases, and the results of the operation are discussed.

TUBERCULOSIS OF THE KNEE-JOINT IN ADULTS

BY

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(WITH SPECIAL PLATE)

This article chiefly concerns local aspects of the tuberculous knee-joint, and is based on 108 cases treated at St. Luke's Hospital, Lowestoft, from 1931 to 1935 inclusive. The patients have remained under after-care observation, and up-to-date information of their condition has therefore been obtainable, except in 9 cases which it has not been possible to trace recently.

The age and sex incidence was as follows: from 16 to 20, 37.5%; 21 to 30, 37.5%; 31 to 40, 11.5%; 41 to 50, 11.5%; over 50, 2%. Males and females were affected equally.

Aetiology

Tuberculosis of the knee-joint is a haematogenous infection secondary to a focus of active disease elsewhere in the body. Often the primary focus cannot be detected, and in many such cases the bronchial or mesenteric lymph nodes are the starting-point of disease. In the cases treated at St. Luke's Hospital the association with other detectable tuberculous lesions, active and quiescent, was as shown in Table I.

TABLE I

Site of Disease	Active Cases		Quiescent Cases		
	No.	Percentage associated with Knee Disease	No.	Average Period of Quiescence	Percentage associated with Knee Disease
Lungs	8	7.4	9	8 years	8.33
Multiple lesions ..	4	3.7	1	4 "	0.9
Cervical glands ..	0	0	4	4.5 "	3.7
Spine	2	1.85	1	1 year	0.9
Kidneys	2	1.85	0	—	0
Single joints ..	1	0.9	3	15 years	2.77
Lupus of face ..	1	0.9	0	—	0
Peritoneum ..	0	—	1	2 months	0.9
Epididymis ..	2	1.85	1	11 years	0.9
Sternum	1	0.9	0	—	0
Totals	21	19.35	20	—	18.4

Thus in this series of cases 37.75% of patients suffering from tuberculous arthritis of the knee-joint had tuberculous lesions elsewhere—active in 19.35% and quiescent in 18.4%.

Relation to Trauma.—History of trauma which might have borne some relation to development of the tuber-

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CARCINOMA OF BREAST

FIG. 1.—Diagnosis with no symptoms. Tiny carcinoma under right nipple well shown.

FIG. 2.—Photograph of patient taken thirteen years after operation.

VERNON PENNELL AND L. C. MARTIN: REMOVAL OF A TERATOMATOUS "TWIN"

FIG. 1.—A case of teratoma in a female child aged 5 weeks.

FIG. 2.—Contents of the teratoma. (See diagrammatic key in text.)