LATENCY AND FREEDOM FROM RECURRENCE
AFTER OPERATIONS FOR
REPUTED CARCINOMA OF THE BREAST
ILLUSTRATED BY 108 TABULATED CASES

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It is a matter of general belief that the results of removal of the breast for carcinoma in the first half of this century, and, indeed, up to quite modern times, were essentially bad. Such surgeons as Cline, Everard Home, and Munroe would hardly consent to its performance. Brodie limited the scope of the operation to a very few selected cases ('Works,' vol. iii, p. 256). He laid down conditions which well apply to the selection of favorable cases even in the present day. It was the same in other countries. Thus Halsted states that Agnew operated only for "moral effect," and Sands, in a long experience, declared he had not saved a single case ('Annals of Surgery,' 1894). The form of operation executed in the earlier years of this century was due to a kind of revulsion from the old and very complete, but barbarous method

of sweeping off the entire mamma, skin and all, and freely applying the cautery. It may truly be said that numbers of operations up to 1880 were markedly incomplete. In their anxiety to unite flaps, surgeons ignored the fact that they were actually shutting up cancerous foci in the wound, the growth being really never removed at all. This state of things was prominently brought forward in a remarkable paper by Moore, of the Middlesex Hospital, which hardly received that attention in this country which its importance merited ('Med.-Chir. Trans.,' vol. l). Moore's paper was to show the influence of inadequate operations upon the return of cancer. The concluding paragraphs are worth referring to, as clearly showing that an English surgeon, as long ago as 1867, correctly estimated the method of spread of the disease, and actually described the "complete" operation now in vogue, which we have so largely adopted from foreign recommendations. "Centrifugal dispersion," writes Moore, "determines the spread of cancer." "The entire breast needs extirpation." Besides the skin, other adjacent structures need extirpation. Later on, Gross in America advocated the same doctrine, and it is right to point out that Mitchell Banks, about the year 1880, was one of the early "revivalists" of the complete operation in this country.

In his notable paper Moore refers to a case where recurrence took place in the scar nine years after the "inadequate" operation. He truly remarks that with such a result the operation could hardly be considered an incomplete one. Here is exemplified the curious exception to the general rule. Hardly any writer on cancer of the breast, hardly any surgeon of long experience, but is able to supply cases of this nature, where years of immunity from disease are observed even after operations now considered with reason to be "incomplete." Even Brodie, with his well-known unfavorable view of the operation, referred to undoubted cases well thirteen and six years after operation ('Works,' vol. iii, pp. 261, 262). Many such

cases are scattered about in literature, or in unpublished records of practice. Thus Greenhow referred to a case under his notice, where carcinoma occurred in a distant organ, eight years after a scirrhus tumour of the breast had been destroyed with caustics. In such a case the axillary glands would, of course, have been left untouched ('Path. Soc. Trans.,' vol. xxv, p. 366). Dr. Keser, of Harley Street, informs me that he closely followed the practice of Professor Socin of Bâle, and found five undoubted cases in that surgeon's practice well five to thirteen years after the original operation. Professor Socin operated by the old method, only opening the axilla where enlarged glands were detected.

It is not my object in the present paper to contrast the results of the complete and incomplete operations. I would only point out that to be logical the complete operation must aim at removing every particle of lymphoid tissue that may be infected. I would take as the type Halsted's operation, in which, as is well known, not only are the growth and skin freely removed, but also the pectoral muscles, fascia, and lymphoid tissue from the sheath of the vessels. The type of what is called the incomplete operation would be the removal of the whole breast and affected skin, but not of the contents of the axilla, unless the glands are felt to be enlarged, and not of necessity the extreme outlying prolongations of mammary tissue. It is right to point out that among modern operators difference of opinion still obtains in the comparative value of these two methods of operating. To quote only two instances. Treves, writing in 1891, states that he had given up the practice of clearing the axilla, as the results obtained had appeared to him in no way more satisfactory than those which followed the lesser operation ('Manual of Operative Surgery,' vol. ii, p. 758). On the other hand, Jacobson, writing in 1896, takes an opposite view, and supports extensive operating ('Operations of Surgery,' 3rd edit., p. 549). I might easily quote other instances of differences of opinion, but we all know that these are

manifest, and the matter need not be further demonstrated. When differences of opinion exist, there is always much to be said on either side. The trend of general surgical opinion seems to be rather in favour of early and extensive operating. No one who has studied the results of Dennis, Meyer and Halsted in America, can doubt that the "complete" operation lessens the liability to local recurrence in a most marked manner. This subject is so well treated in Cheyne's recent Lettsomian lectures at the Medical Society of London ('Trans. Med. Soc.,' 1896), that I need not refer to it further. There is one point, and that a very vital one, which I fear has hardly received the attention it deserves with regard to the result of the complete operation on cancer of the breast. How far does the most complete operation known influence the occurrence of metastases in the viscera, bones, or other parts? If we carefully consider Halsted's cases ('Annals of Surgery,' 1894) we are at once struck with two things. First, the cases are many of them of an exceedingly bad type; secondly, the results are reported with perfect sincerity. Out of fifty cases, in ten the ultimate result or cause of death is not known. In seven instances the cases are reported under twelve months, some in as short a time as three or four months after the operation. Such cases are, of course, valueless for computing the frequency of metastases. This leaves thirty-three cases for consideration, and out of these nine died of metastatic cancer. That is to say, that the most complete operator known, not picking his cases, has a mortality from metastases in nearly 27 per cent. This is taking also the most favorable view, that none of the cases where the cause of death is not stated died of cancer.

The present tables are compiled with the following objects:

(1) To show that the results of the so-called incomplete operations, are not so universally bad as is generally estimated.

(2) To illustrate what, for want of a better term, I may

call the vagaries of cancer cases, and the extraordinary periods of latency of the disease in many instances.

(3) To show that some of the cases, when life has been prolonged to an extraordinary period, have been associated with operations upon local recurrences.

I am especially anxious not to try and prove too much by the cases narrated. In the first place, it will be noted that in some of the cases microscopical proof was not forthcoming. This is notably so in Mr. Teale's cases. Now, with regard to this point, it may be said that, however doubtful the clinical diagnosis of carcinoma may sometimes be, there is little difficulty about the naked-eye appearances of a typical specimen, when it is cut across. In cases of doubt, as in the so-called "indurated patches," I have usually found that there is always as much hesitation and difficulty in the minds of microscopical observers, as in those who have made the coarser inspection. I have taken special pains to verify the cases by queries. It will be seen that the authors state that the cases were undoubted. They speak of such phenomena as implication of skin and glands. The appearance "was typical when cut across." Indeed, Mr. Teale stated to me that his cases were so evident that microscopical proof was hardly needful. I have rejected some cases that have been communicated to me, where the growth contained cysts, or was soft and brain-like. This has been done with the idea of eliminating as far as possible cases of duct papilloma, and recurrent sarcomatous disease. I am ready to allow that it is possible that some of the cases narrated may have been recurrent sarcoma. Here, the comparative rarity of this disease must be reckoned with, and the cases lose little of their interest if an occasional error, like the inclusion of a sarcomatous growth, has crept in. To assume that these cases are untrustworthy, would be to assume that many surgeons of experience are unable to recognise the ordinary hard carcinoma of the breast by clinical signs and naked-eye anatomy. I think I have reason to claim, therefore, that the evidence of these cases being genuine

is sufficiently strong to render them of value, and to press them upon the attention of the profession as being of the utmost interest and importance.

It may be said that the instances are few in number. I would reply that they are rather selected for illustration than for number. For this reason I have taken them from writings, and from the experience of American surgeons, to show how wide-spread these cases really are. I have been able to obtain the experience of only a few senior surgeons who were personally known to me. The names of many, who doubtless could add to the number of these remarkable cases, are absent from the list. It is striking, too, that the majority of instances are culled from private practice, in which alone, generally speaking, the ultimate results of operations for carcinoma are known. In hospital cases the recurrent cases show themselves, the patients who remain free do not. It is right to assume that if a given surgeon can collect favorable cases from his private practice, he would be likely to collate a still larger number from the practice of hospitals, where the majority of his operations have been performed. As regards cases where periods of three, four, and six years have elapsed, I believe a very considerable number could easily be collated. I have four in my own practice, and many have been sent to me from all parts of the country, which I did not consider striking enough to be related in the tables. With reference to this, the experience of Sir James Paget may well be quoted. His pessimistic view of the recurrence of cancer of the breast is too well known to repeat here. Kindly writing to me in 1896, he says: "From my recollections I should say that survivals of three years, such as are now termed 'cures,' were not very rare. I can remember very few who survived without recurrence more than five years. Of those who survived more than ten years there were only two or three known to me."

In Group I will be found forty-four cases where no recurrence took place after the primary operation for

periods varying from six to twenty years. I use the term recurrence in its widest sense. Doubtless many surgeons would prefer to call some of these cases fresh outbreaks of disease. In comparison with the numbers in recurrent cases (Group II) these cases are in the minority. Some of the operations are markedly incomplete. Thus, in Mr. Nixon's case (No. 3) a cancerous tumour was excised from the mamma, the gland being left behind, as well as enlarged axillary glands. When the patient died seven years later cancer was not present in any of her tissues and organs.

In periods of time the cases in Group I may thus be presented :

Surviving and free from recurrence—

From 6 to 12 years . . .	23 cases.
„ 12 to 20 „ . . .	16 „
20 years and over . . .	5 „

Group II. It may be pointed out that the manifestation of recurrences is a strong proof of the malignant nature of the primary tumour, and generally speaking of their carcinomatous character. It will be at once noted that recurrences or fresh outbreaks of disease, if the term is preferred, took place at the most remote intervals after the operation. It is remarkable how comparatively seldom the second breast was affected. In this organ above all others, fresh outbreaks of disease might naturally be expected to occur. In 49 cases where late recurrences or fresh manifestations were observed, the following periods are exemplified :

Recurrence after operation was observed—

From the 4th to the 8th year in 19 cases.

In the 9th year . . .	8 „
„ 10th „ . . .	10 „
„ 11th „ . . .	2 „
„ 12th „ . . .	1 case.
„ 13th „ . . .	1 „
„ 16th „ . . .	1 „
„ 17th „ . . .	1 „

In the 19th year	.	.	1 case.
„ 22nd „	.	.	2 cases.
„ 23rd „	.	.	1 case.
„ 25th „	.	.	2 cases.

In the 15 remaining cases recurrences of a local nature in the scar or glands took place early, say within two years, and were removed with striking results.

The removals were in some cases repeated. Extraordinary periods of prolongation of life are observed in some of these cases. Attention may especially be called to Case 12, in which there have been twelve operations for local recurrences during twenty years; to Case 50, where after six operations for recurrences the lady enjoyed good health for forty-nine years; and to Case 8, where three early operations for local recurrence were followed by twenty years' immunity.

Of 23 cases, in which recurrences had been removed, sometimes repeatedly, we find—

4 cases remained well for	5—10 years.
11 „ „	10—15 „
3 „ „	15—20 „
4 „ „	20—30 „
1 (an extreme case) „	49 years.

In considering the suggestions offered to our minds by the collation of these cases, I wish to carefully avoid the realm of speculation, already sufficiently encroached upon in reference to cancer cases.

One thing is clear. There must be something very remarkable about cases of this nature, which though exceptional, may at any time occur. It seems to me that one possible factor to consider is the question of rate of growth of the tumour. Unfortunately, it is impossible to obtain from patients an accurate estimate of the length of time a given tumour has existed. But as an illustration of the fact that tumours of slow growth are favorable for excision, notwithstanding their extent, a case quoted by Mr. Hutchinson from the practice of Paget, of Leicester, may well be here related ('Archives of Surgery,' vol. v,

p. 47). The patient was the wife of a surgeon who had contracted a cancer of the breast for several years, until it attained to such a size and state, together with an enlarged axillary gland, that the operator looked upon the operation as the "boldest step" he ever achieved. An extensive excision was made, and the patient remained well for no less a period than twelve years. Death occurred after this long period from cancerous nodules in the skin and pleura on the affected side. When long immunity is observed after operations for rapidly growing tumours, I believe such are generally encapsuled, and frequently either "villous duct cancers or sarcomata."

The second factor at work in these cases, may be something in the body of the host inimical to the rapid growth of the malady. Perhaps in the last twenty years we have studied too much the growth, and too little the soil in which it grows. We are completely ignorant of the conditions which lead to retrogression and atrophy of carcinoma of the breast, and a collective investigation and study of these cases in all their bearings as to bodily health, other maladies, hereditary taints, and so on, is a matter not beneath the notice of the leading London societies. I cannot but believe and assert that, looking at the results of operations really incomplete, the years of immunity sometimes observed are due either to peculiarities of the growth, or to unsuitableness of tissue for its rapid propagation. This more than the operation has to do with the favorable results. I see no reason why the general rule of operations for cancer is not easily carried out in the mamma—operate early, operate widely; but as regards the term "cure," as adopted by Volkmann and his disciples, when freedom from local recurrence is observed for three years, I think we ought to employ it with the extremes of caution, and I think many of the cases I have tabulated bear out and forcibly illustrate this opinion. It is worthy of remark that Jacobson, in a careful review of the subject, comes to much the same conclusion, and states his opinion that at least six years

should elapse after the primary operation before the term "cure" can be used ('Operations of Surgery,' 3rd edit., p. 553).

It seems only too probable, that once a cancer forms in the mamma, the blood and lymph which percolate through it carry the infective elements broadcast far sooner than we dream of. The obvious manifestations in the adjacent lymphatics must not be taken as the only dissemination which occurs. This is only a proof of the smallness of our powers of observation even with the microscope. Outbreaks of cancer in the glands, as seen years after, can only mean latency of the infective elements. Outbreaks of cancer in the viscera may mean fresh disease; yet it is curious, if such be the case, why we find the cancer attacking such parts as the bones of the vertebral column, the pleura and lung, or the brain, where primary spheroidal-celled carcinoma is almost unknown, unless the breasts have been affected.

In conclusion I express the hope that this paper may afford encouragement to surgeons in operating upon carcinoma of the breast, and may also serve as a useful reference in persuading patients to have the operation performed. The many suggestive points which such cases bring out, afford the strongest possible argument for the careful study and collection of similar instances, by all members of the profession.

TABLES OF CASES REFERRED TO IN
THE PAPER

The Cases referred to in the Paper.

GROUP I.

Cases where the mamma has been removed, presumably for carcinoma, the patient living long without recurrence, or dying of other affections many years after.

No.	Primary operation.	Remarks.	Results.	Source or authority.
1	Breast removed for undoubted carcinoma in 1888; axilla not cleared	No microscopical examination made, for evidence on naked-eye section complete	Patient quite well 6 years after. (<i>Note</i> .—Of these cases, 5, 6, 7 years, 8 have been collected. I insert this as an example)	Dr. Sandberg, of Brixton.
2	Breast removed for carcinoma in 1885	No microscopical evidence; nature of growth stated to be quite clear	Patient quite well 9 years after	Mr. Travers, of St. Leonards.
3	A woman aged 50, of powerful physique and with enormous mammae, a noted street fighter. A carcinomatous tumour formed after a blow, and a mass of hard glands formed in the axilla. By the advice of Colles, of Dublin, only the tumour was removed, the glands and the remainder of the large mamma being left. The operation was therefore very incomplete	Naked-eye and microscopical evidence of glands and tumour	This patient remained well, and subsequently died 7 years after the original operation from cirrhosis of the liver. The body and mammae were examined; there was no trace of cancerous disease	Mr. Fred. Nixon, Dublin.
4	In a patient 53 years of age a carcinomatous tumour the size of a lemon was removed from the right breast; the axillary fascia and glands were also removed	Carcinoma stated to be undoubted; examined by microscope	Well without recurrence 9 years after. At the same meeting Coley stated that he had under his care a woman, 71 years old, whose breast had been removed for carcinoma by Hodges, of Boston, nine years before	Murray, Proc. of New York Surg. Soc., April 24th, 1894.
5	Breast removed for a mass of cancer the size of a walnut from a lady aged 41. This was in 1873. The axillary glands were not removed	Stress laid on the undoubted nature of the growth	Seen alive and well 21 years after the operation	Dr. Allan Jamieson, of Edinburgh.

6	Removal of the right breast only for malignant disease	The tumour had the usual characteristic symptoms	18 years after she was in perfect health	Dr. Morton, of Philadelphia, <i>Annals of Surgery</i> , 1894, p. 94.
7	A lady had both breasts removed for undoubted carcinoma by Mr. Furneaux Jordan	No microscopical proof; case stated to be "very obvious"	Lady in perfect health 15 years after	Dr. C. Bradford, Acocks Green, Worcester.
8	Two patients, aged 60 and 55 respectively, were operated upon for carcinoma of the breasts. The skin was freely removed, and the wound encouraged to suppurate; the glands were not taken away	—	These were well without recurrence 5 and six years after respectively	Sir George Humphry.
9	A case of removal of the breast for "scirrhus" when the patient was well 11 years after	—	11 years	C. Henth, Med. Press and Circ., Jan., 1895.
10	In June, 1874, the late Mr. Durham removed the mamma of a lady for undoubted carcinoma; the axilla was not opened	The tumour was "cut" afterwards, and was certainly hard carcinoma	22 years after this lady was alive and well. (<i>Note</i> .—Mr. Durham had lost sight of this case)	Mr. Wallis, of Cambridge.
11	Breast removed; axillary glands cleared out	Nature of disease proved by microscope	Well with no recurrence 10 years after	Mr. H. Morris.
12	Breast removed for undoubted carcinoma	—	This lady was operated upon for "gall-bladder trouble" in 1896, 7 years after the operation in the mamma; there was no trace of return	"
13	In June, 1878, a lady had the breast removed for cancer	—	She was well and free from recurrence twelve years after	"
14	A lady aged 68 had the breast removed for cancer by Mr. Bryant. No mention of clearance of axilla.	The statement of the author that the disease was cancerous	She died of "gall-stones," as verified P.M. There was no trace of recurrence of cancer; this was 15 years after	Mr. T. Bryant.
15	A lady had the breast removed for cancer at the age of 60 by Mr. Bryant	—	She died of "old age" at the age of 80, 20 years after	"
16	Right breast and some axillary glands removed from a lady, aged 47, in 1886	No microscopical proof. The case is stated to be undoubted	She was quite well 8 years after	Mr. Barwell.

No.	Primary operation.	Remarks.	Results.	Source or authority.
17	Breast removed from a hospital patient. The skin was involved, but not the axilla	This was a case of cancer where there was extensive involvement of the skin	She was quite well 11 years after	Mr. Barwell.
18	In March, 1885, the whole breast was removed from a patient 68 years of age "for a hard cancerous tumour"	On inquiry it is stated that the skin was involved, and the nature of the growth on naked-eye section clear	This patient was well 10 years after	Dr. Trotter, Cranlington, Northumberland.
19	In January, 1888, the breast and some enlarged axillary glands were removed by Mr. Butlin	Sir James Paget confirmed the diagnosis, and speedy recurrence was prophesied	This patient was well in 1895, 7 years after	Mr. Tapson, of Clapham.
20	A widow, aged 74, had the whole breast removed for extensive "scirrhous" involving the skin by Walker, of Peterborough. The edges of the wound could not be brought together	Case seems quite clear; the implication of the skin with nodules, &c, spoken of	10 years after the patient was quite well	Dr. Hubbersty, of Sunderland.
21	A married woman, aged 60, had the breast removed for "ulcerating scirrhous" by Walker, of Peterborough, in October, 1879. No mention of axillary glands being removed	Case undoubted	She died 17 years after the operation. The actual cause of death was not ascertained, but there was no trace of disease in the scar or elsewhere	"
22	A patient, aged 65, had the breast removed for cancer in April, 1883. The axilla was not cleared	—	She was quite well 6 years after, and died of old age	Sir T. Smith's cases, Lancet, Aug. 8th, 1896.
23	Breast removed from a patient, aged 50, in January, 1883. The axilla was not cleared	—	13 years after she was quite well with no return	Sir T. Smith.
24	Breast removed from a patient, aged 45, in May, 1877. Axilla not cleared	—	Well without recurrence 17 years after	"
25	Breast removed from a patient, aged 65, in August, 1880. Axilla not opened	Case of atrophic scirrhous	Died of "influenza" 14 years after. No sign of return of disease	"

26	Breast removed from a patient, aged 47, in February, 1889. The axilla was opened and some enlarged glands removed	Case of atrophic cancer	Alive and well 7 years after operation	"
27	Left mamma removed in 1886 for carcinoma; enlarged axillary glands removed also. Mr. Mayo Robson was the operator	Microscopical and naked-eye proof	10 years after this patient was alive and quite well	Dr. Carr, Kippax, Yorks.
28	Breast removed from a lady aged 49. There were some glands to be felt in the axilla, which were not enlarged. Date of operation June, 1863	The microscope was not used, but I have the assurance of the author that the naked-eye appearances were perfectly clear	13 years afterwards this patient was quite well	Mr. Pridgin Teale
29	A single lady, aged 69, had the whole mamma removed for ulcerating carcinoma in May, 1877. Three cancerous glands removed from the axilla	Case, according to author, a very marked and extensive one of carcinoma	18 years after she died of "senile decay" with no recurrence	"
30	In September, 1888, breast removed for undoubted carcinoma. Age of patient not given	Microscopical verification by Dr. L. Thomas, of Cardiff	Patient quite well 8 years after	Dr. Edgar Jones, of Cardiff.
31	Delagarde, of Exeter, states that he knew a patient survive 27 years after removal of the breast for cancer	Statement of author. The term "thoroughly scirrhous" is used, and the patient died insane	27 years; no recurrence	St. Bart's Hosp. Rep., vol. iii, p. 319.
32	A lady, aged 63, skin implicated. Breast and skin removed, but not axillary glands, in 1874	Naked-eye appearances on section those of "scirrhous" cancer	There was no return in 1897, a period of 23 years; meanwhile one of her sisters died of cancer of the breast, another of cancer of the uterus, and the mother died of cancer also	Mr. John Croft ²
33	A lady, aged 48, operated upon in 1877. Skin much involved; axillary glands involved also. The glands were removed	Growth and glands carcinomatous to the naked-eye	Known to be well in 1888, 10 years after operation; case not further traced	"

¹ It may be concluded generally that in all these cases the extensive complete operation, as now practised, was not done. If enlarged glands were felt in the axilla these were cleared away. In several of Mr. Morris's cases, however, the axilla is stated to have been cleared out. Mr. Smith's cases are typical of the "partial operation."

² *Note on Mr. Croft's cases.*—None of these cases were microscopically examined. Their value lies in their source, and the fact of the typical and naked-eye appearances after removal. We can hardly doubt that they were genuine cases of carcinoma.

No.	Primary operation.	Remarks.	Results.	Source or authority.
34	A lady, aged 56, operated upon in 1878. No history of axillary glands being removed	There was a cyst in the breast as well as "scirrhus" cancer	She was well in 1891, a period of 13 years after the operation. Her mother died of cancer, and her sister of cancer of the breast	Mr. John Croft
35	A lady, aged 31, operated upon in March, 1879. The tumour was small, but the whole breast was removed. The axillary glands were left alone	The naked-eye appearances were those of scirrhus	No return in 1896, a period of 17 years. A number of the relatives had died of cancer meanwhile	"
36	A single lady, aged 65, operated upon in 1881. No glands removed	Scirrhus of the sternal border of the mamma. Adherent skin implicated	No return in 1897, a period of 16 years.	"
37	Lady, aged 35, operated upon in 1883. Glands affected markedly and removed	Growth was soft; carcinoma (tuberculous cancer)	No return in 1897, a period of 14 years	"
38	A lady, aged 41, operated upon in 1889. The glands were not affected or removed	A "scirrhus" tumour the size of a half orange; naked-eye appearances typical	Well in 1897, a period of 14 years after	"
39	A lady, aged 41, operated upon in 1885	"A small scirrhus"	"2 years ago," in 1895, was well and "free from cancer," a period of 10 years	"
40	A lady, age not given, operated upon in 1885. Glands not affected or removed	Naked-eye appearances	Well in 1897, a period of 12 years	"
41	Miss F—, aged 47, Dec. 5th, 1883. Removal of breast; axilla not opened	Well-marked scirrhus carcinoma involving about half breast confirmed by microscope	Remains well, Feb. 3rd, 1897, a period of 14 years	Mr. W. Haward
42	Amputation of left breast only in a lady in November, 1875	A large tumour; the skin over it is involved; of the acute type. Microscopical evidence of carcinoma also	Known to be well in 1890, a period of 15 years	Late G. C. Rigdon, of Lewes. Mr. A. Willett.

43	Right breast removed from a lady in April, 1891. Axilla not opened	Microscopical evidence; a large, hard, rounded tumour; bloody fluid from nipple; case appears to incline towards the atrophic section	Complete freedom in 1897, a period of 6 years	Sir James Paget; Mr. Jowers, of Brighton; Mr. A. Willett.
44	Breast removed from a lady, aged 57, on May 23rd, 1889. Glands also removed from axilla. The tumour was situated at the edge of the left breast	Microscopical "scirrhus"	Complete freedom in 1897, a period of 8 years	Dr. Lediard, of Carlisle; Dr. Mitchell, of Cockermouth.

GROUP II.

Cases of long life after removal of the breast for carcinoma, though recurrences took place, in some instances many years after the original operation. The value of repeated operations on recurrences is in some of the cases strikingly shown.

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
1	A lady had the right breast removed for carcinoma by Mr. Jones, of Manchester, in 1874	Disease stated to be cancerous without doubt	17 years after the operation recurrence took place in the scar in the form of nodules. The abdomen swelled, and she died with ascites and carcinoma of the peritoneum	Mr. Banting, of Torquay.
2	Mr. Haward removed the left mamma from a woman at St. George's Hospital in 1887; the growth was carcinoma. Enlarged glands were removed from the axilla	Case verified by reference to notes. Previously to this the same surgeon had removed an ovarian cyst from the patient, but there is no note as to its nature	9 years after the mammary operation, the patient having remained perfectly well, tubers of carcinoma appeared in the scar, in the opposite mamma, and in the root of the neck	Author. This patient came to my out-patient department in 1896.

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
3	A lady, aged 38, had the breast removed by Pollock, of London	Statement that the disease was undoubtedly carcinoma	6 months afterwards a recurrence the size of an egg took place in the scar. This was undoubtedly cancerous, and was removed by Wyeth, of New York. 14 years after this last operation she was in perfect health	Wyeth, Proc. of New York Surg. Soc., March, 1894.
4	A case related at same meeting of removal of extensive and undoubted carcinoma of the breast	—	10 years after, recurrence in scar. Removal. 14 years after primary operation, in good health with no sign of return	Stimson, Proc. of New York Surg. Soc., Mar. 14th, 1894.
5	Breast removed for undoubted carcinoma from a lady between 50 and 60 years of age. Date Sept., 1884	Nature of primary growth stated to be quite undoubted	6 years after, recurrence took place in the scar and was again operated upon. In 1896 another recurrence took place, and was again operated upon (a portion of the second recurrence was sent to me for examination. It was fibrous in structure, and might have been either keloid or atrophic carcinoma)	Prof. C. Black, Glasgow.
6	A lady, aged 57, had the right breast and axillary glands removed by Mr. H. Morris in 1885	Case quite undoubted	2 years afterwards, a recurrence took place in the scar. This was again removed. She was quite well in 1895, 10 years after the original operation	Dr. Lendon, of Norland Place, London.
7	A single lady had the right breast removed by a very extensive operation by Mr. Pye in 1885	Not examined with the microscope. Disease extensive and undoubted	10 years afterwards, the patient in the interval remaining quite well, Mr. Pearce Gould removed a recurrent mass from the pectoral region. This was carcinoma. Patient after this remained well	"
8	In May, 1876, a woman of 50 had the breast and some enlarged axillary glands removed for extensive carcinoma. This had existed for 17 months, and had been treated by injections of acetic acid	The growth was very extensive and clearly carcinomatous	Local recurrence took place in 1877, in 1878, and in 1879. The nodules were in the region of the scar, and were always freely removed. In 1896, 20 years after the first operation, this patient was alive and well	Mr. Edmund Owen.

9	A widow, aged 43, had the right breast removed for scirrhus in 1884	Microscopical proof	In 1885 the disease appeared in the opposite mamma, which was also removed, and the true nature of the growth again proved by the microscope. In 1896, 10 years after second operation, 12 after the primary operation, this patient was alive and well	Dr. Hare, of London; the late Mr. Durham; Mr. Howard Marsh.
10	Breast removed for carcinoma in 1874	Statement of author	Recurrence in scar a few months after. This was freely removed. 14 years after this lady was well and free from disease One of these died of cancer of the tongue, and another had "a sarcoma of the soft palate" removed 2 years after the first operation Local recurrence took place "soon." This was removed, and she was well for a period of 10 years. Again recurrence took place in the scar. This was again removed. 2 years later recurrence in the femur and pelvis, which proved fatal	Mr. Nelson Dobson, Bristol Med.-Chir. Rev., 1889, 240. " The late Sir George Humphry.
11	A lady had the breast removed for undoubted cancer. The skin was removed very freely. Some enlarged glands were also removed from the axilla	Sir George states, as the result of his experience, that the disease returns in the scar rather than in the glands. He was not sure of the wisdom of removing the glands unless infected. Very free local removal is indicated. The age is important, and so is the rate of growth of the cancer, being worse in the young and during the child-bearing period		
12	A lady had a cancerous tumour excised by Birkett from the upper margin of the right mamma in 1878. The whole breast was not removed	The primary growth was not examined with the microscope, but the subsequent ones proved to be carcinomatous	She remained well for 10 years; then the growth returned, and the whole breast was removed by the late Mr. Durham. Recurrence took place in the scar or about it every year until 1894, when two recurrences were operated upon in the same year. In 1895 Mr. Marsh operated, and in 1896 an eminent provincial surgeon. This lady has had at least 12 local operations for recurrence, and is now, 20 years after first operation, in good health	

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
13	A woman of 70 was admitted into St. George's Hospital in May, 1894, when the right breast was removed for extensive carcinoma	Microscopical proof	12 years before this the left breast had been amputated for carcinoma (?) at King's College Hospital. The patient gave a very clear history of the original disease, and how she was told it was "cancerous" by Ferguson	Author.
14	A case of undoubted carcinoma in a lady aged 61, for which the breast was removed by Mr. T. Pick in 1886. The tumour was the size of a small orange, and had been 2 years in growing. The axillary glands were not removed	Clinical and microscopical proof	Patient remained well for 6 years: then a recurrent nodule the size of a filbert formed in the scar. This was removed. In 1897, 11 years after the second operation, this patient remains well	Mr. T. Pick; Dr. Morgan, of Torquay; author.
15	Observation at the Middlesex Hospital in March, 1896	Statement of Mr. Morris	A patient was seen with recurrent carcinoma in the scar of an amputation of the breast done for cancer 22 years before	Mr. H. Morris.
16	Right breast and axillary glands removed for carcinoma in September, 1862	Case seems genuine and undoubted	16 years after the operation there was a "limited return" at the upper border of the scar. This was apparently removed. 31 years after the first operation the patient was alive, but the arm was swollen, and there were "flat vivid plaques" of cancer in the old scar. 33 years after operation patient able to work as a char-woman	Nunn, Clin. Soc. Lond., Feb. 14th, 1896.
17	About the year 1882 or 1883 Dr. Iles, of Stratford, amputated the left breast of a lady for "very rapidly growing carcinoma"	Special stress is laid on the examination of the specimen with naked eye and microscope	2 years after, disease appeared in the opposite breast, the scar on the left side remaining healthy. She would not have the right mamma removed, but took the carbonate of calcium then recommended by the late Dr. Peter Hood. In 1896, 14 years after the first operation, she has no further	Dr. Stradling, of Watford, Lancet, 1887, and private letters

18	Breast removed for extensive carcinoma from a lady aged 68	Statement of author	manifestation of disease. She has had several attacks of illness, but is now in fair health. The right breast is shrunken and "withered up." (I regard this as an instance of atrophic carcinoma.—A.M.S.)	Mr. C. Brooke, Surgeon to Lincoln County Hospital.
19	A laundress, aged 59, was an inmate of St. George's Hospital in 1872, when the left breast and axilla were "cleared" for carcinoma by Mr. H. Lee (probably only enlarged axillary glands were removed)	Nature of disease clear. The carcinoma had ulcerated extensively	She remained perfectly well for 6 years. In the 7th year she died of cancer of the liver (verified), the scar and adjacent parts being quite healthy	Author.
20	In the year 1886 the breast was removed from a lady, aged 60, for "extensive scirrhous cancer"	"The nature of the case was quite clear"	The patient remained well for 5 years, when a small recurrence was removed from the scar. In 1886, 14 years after the first operation, she was again admitted with a small recurrence at the sternal end of the scar, which was removed. The axilla remained free. The ultimate result is not known	Dr. Freer, of Stourbridge.
21	Mr. Jonathan Couch, Surgeon, of Looe, in Cornwall, was present when his "master," Mr. Rice, removed the breast of a woman for "scirrhous." Mr. Rice especially dwelt upon the marked features of the disease. The skin was much affected, and the cancer was said to be of the stony variety	Mr. Couch writes "that the facts of this case may be implicitly relied upon." In view of the pathology of ancient days this case may have been sarcoma. The nature of the recurrence seems clear	Nearly 25 years after, when the operator had "passed away" and Mr. Couch had succeeded to the practice, this woman presented herself with cancer in the cicatrix of the old wound. This was again operated upon, but it speedily returned and proved fatal	Mr. John Couch, of Penzance.

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
22	In the year 1847 a woman, aged 43, had the left breast and axillary glands removed for scirrhus	The microscope was used. Nature of case quite clear	Recurrences were removed from the scar in 1848 and in 1866. In 1867, 20 years from the original operation, she had grown into a "hardy, fresh-looking old woman." The scar and axilla were quite sound. There were two fatty tumours near the scar 19 years after operation recurrence in liver	Delgarde, of Exeter, St. Bart.'s Hosp. Rep., vol. iii, p. 319.
23	The same surgeon states that he knew a patient die of cancer of the liver 19 years after removal of a scirrhus of the breast	Statement of author		Ibid., p. 324, footnote.
24	A woman, aged 50, had the right breast removed for scirrhus as large as a walnut	"It presented the true scirrhus structure"	9 years after, the scar remaining well, she died of cancer of the uterus. "After removal of cancer of the breast I have only in one instance seen it seize upon the womb"	Ibid. pp. 320, 326.
25	In the year 1892 the case of a woman, aged 58, was observed who had had the left breast removed by Mr. Morris 10 years before	(Mr. Murray, then Registrar at the Middlesex Hospital, kindly verified the diagnosis of the growth from the Hospital records for the author)	Her health was good for 10 years, and in the 11th year after the operation the growth returned in the axilla and left lung, and she died from cancerous pleurisy	Mr. Yearsley, 10, Bentinck Street, London.
26	Breast removed for carcinoma from a lady, aged 65, in 1883. Axilla not opened	Statement of author	Recurrence in scar in 1888 and 1891; both removed. Well in 1896, 13 years after first operation	Sir T. Smith's cases, Lancet, Aug. 8th, 1896.
27	Breast removed for carcinoma in November, 1887. Axilla not opened	"	Recurrence in scar removed in 1889. Well in May, 1896, 9 years after first operation	"
28	Patient aged 44. Breast removed for carcinoma in June, 1882. Axilla not opened	"	An enlarged axillary gland removed in February, 1883. Well with no recurrence in 1896, a period of 14 years	"
29	Right breast removed for carcinoma from a lady, aged 38, in October, 1882. Axilla not opened	"	She remained well for nearly 8 years, when recurrence took place in the scar, and the left breast became affected	"

30	Breast removed for carcinoma from a patient, aged 50, in March, 1879	"	She remained well for 13 years, and in June, 1892, died of "secondary growths" in the mediastinum	"
31	Left mammary gland removed for carcinoma from a lady, aged 55, in June, 1884. Axilla not opened	The tumour was the size of a pigeon's egg, hard with adherent and dimpled skin on section; it presented all the characters of "hard cancer"	She remained quite well for 7 years, then developed malignant disease of the peritoneum and abdominal glands with rapid wasting, from which she died	Dr. Alderton, of Hammersmith.
32	Right breast removed for carcinoma by Sir Joseph Lister. The axilla was cleared	No details of case except statement of patient that the surgeons assured her of the cancerous nature of the tumour, and evidence of extensive clearance of axilla	She remained well for 10 years, and then developed abdominal disease. Mr. K. Thornton operated, and found carcinoma of the right tube and broad ligament	Dr. Brigham, of Sydenham.
33	A woman had the left breast removed for undoubted hard carcinoma at St. George's Hospital in 1889. The right breast was absent, the scar being prolonged into the axilla	Microscope proof also	10 years before the left breast had been removed by Mr. Cooper Forster at Guy's. She had been perfectly well for over 9 years before the disease was noted in the other breast. Mr. Smith, the Surgical Registrar, looked up the notes and verified the nature of the disease in first operation at Guy's	St. George's case-books for 1889.
34	Breast removed from a lady on May 24th, 1869. The axilla was not cleared	Statement of operator that disease was certainly cancerous	In 1870 a recurrent nodule was removed from the axillary side of the scar. 26 years after the first operation this patient is perfectly well	Mr. Teale.
35	Breast removed from a lady, aged 41, in October, 1868. Axilla not opened	A bad case. Much skin and some of the pectoral muscle removed. Axilla not cleared, but one or two enlarged glands removed	In 1873, 3 years after operation, she was well and strong, with no recurrence. In 5 years after first operating the glands of the neck began to enlarge, and she gradually succumbed to the disease	"

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
36	Breast removed from a lady, aged 42, in October, 1870. Axilla not opened	Very marked carcinoma	She remained well for 10 years, then a recurrent nodule formed, and was excised from the scar. 15 years after the first operation she was well and strong	Mr. Teale.
37	Breast removed for carcinoma from a lady, aged 54, in August, 1874. Tumour situated towards sternal aspect. The axilla not implicated or opened	Marked carcinoma	3 years after the operation the disease appeared in the axillary glands, which were removed. She remained well for a further period of 4 years, then she died of recurrence in the neck	"
38	Breast removed from a lady, whose age is not given, in January, 1880. The axilla was not opened	"	Remained well for 9 years, then operator had a report she had gone to London on account of return of cancer in the glands	"
39	Breast removed from a lady, age not given, in November, 1884. Six or eight affected axillary glands were removed	The scirrhus was the size of a walnut, and situated near the axillary margin of the mamma	Remained well until 1889, when, 5 years after operation, recurrence took place in the scar	"
40	Breast removed from a lady, aged 71, in June, 1886. An enlarged gland removed from the axilla	—	She died free from cancer in 1895, 9 years after operation	"
41	Breast removed from a lady, whose age is not given, in 1885. No glands removed	The scirrhus was the size of a walnut, and a large area of skin was excised	She remained well until 1889, when, 4 years after the first operation, a small nodule "near, not in," the scar was excised. It implicated the pectoral, and was excised together with some implicated axillary glands. In November, 1896, this patient was living, 11 years after the operation. She had then a small nodule attached to the rib	"
42	A woman, aged 56, had the right breast removed at St. George's Hospital for undoubted scirrhus in 1888. The axilla was also cleared out	—	8 years after the disease recurred in the axilla, the scar remaining healthy. There was a large, hard, fixed axillary tumour, undoubtedly scirrhus cancer. There was no other sign of disease	I saw this case at "consultations" with Mr. Bennett at St. George's on December 9th, 1896.

43	A woman, aged 73, had the right breast removed for carcinoma at the "Cancer Hospital," Brompton, in 1885. The axilla was opened, judging by the scar	Case undoubted	11 years after, in 1896, she was in St. George's Hospital with a large recurrent mass of undoubted cancer in the axilla. This had been growing for about 2 years, so that she had remained free for about 9 years before the disease returned	Seen at "consultations" at St. George's, 1896.
44	In 1878 a lady, aged 68, was seen by Mr. Bryant with carcinoma in the cicatrix of a wound made for removal of a cancerous breast no less a time than 30 years before	The daughter, aged 50, had a hard cancer the size of an orange in her breast	The patient had remained well for 25 years before return took place. Then a tubercle appeared in the scar and other tubercles in the skin round it	Bryant's Diseases of the Breast, p. 158.
45	A woman, aged 50, was operated upon for cancer of 2 years' standing. The date is not given	Statement by Mr. Bryant	She remained well for 11 years, then local recurrence took place, which was removed. 2 years later she was well	Ibid., p. 221.
46	A patient, aged 67, had her breast removed for carcinoma in 1851 by Birkett	—	She remained well for no less a period than 23 years. At the age of 80 cancer recurred in the scar and opposite mamma	"
47	A patient, aged 30, had the breast removed by Birkett	—	She remained well for 13 years, then disease recurred in the scar and was removed. 2 years later another recurrence was removed	"
48	In 1866 Mr. Hilton removed the left breast for cancer from a woman aged 48. The axillary glands "were not looked for"	Statement of operator that disease was carcinoma	In 1876, 10 years after, this patient came under Mr. Bryant's care with cancer of the right breast, which was operated upon	"
49	A woman, aged 47, was one of a family of six sisters, five of whom and the mother had suffered from cancer of the left breast. In December, 1846, Arnott removed a tumour as big as the "last joint of the thumb" from near the nipple. "It was an example of genuine stony cancer"	This operation was doubtless incomplete, only the bulk of the mamma being removed	She remained well until 1856, when, 10 years after, there was a return in the scar and axillary glands. Mr. Shaw of the Middlesex Hospital removed them, and found to the naked eye and the microscope well-marked carcinoma	Morris, Med.-Chir. Trans., 1867.

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
50	In 1837 a lady, aged about 28, noticed a tumour of the right breast. She was pregnant at the time, and as she suckled her child it rapidly increased. In 1838 whole breast removed. In 5 months recurrent nodule removed from scar. In 1839 repeated removals by caustics by Brodie and Travers. Supposed to be cured, but again recurred. In 1842 very severe removal by caustics by M. Canquoin in Paris; subsequent healing. In 1843 sound healing occurred. Practically she had been under constant treatment for 6 years with caustic, and had sustained horrible sufferings	No doubt was expressed of the cancerous nature of this growth. There were many hard "tubers" and great fungation. It may possibly have been a recurrent sarcoma however, but all points to carcinoma	This lady died in 1892 of cardiac failure and pulmonary congestion at the age of 82. She had no trace of disease of the breast for 49 years. Singularly enough her daughter died of undoubted carcinoma of the mamma just after her mother succumbed to old age	Dr. Cullingworth (Med. Times, 1881, vol. i); also a medical relation of the family.
51	A lady, aged about 40, had the left mamma removed for undoubted carcinoma in 1889. Six months after the disease appeared in the opposite breast. This was also removed	There was no doubt that the disease was genuinely carcinoma, verified by microscopic examination as regards the first tumour. The axillary glands were not interfered with in either operation	In the year 1897 this patient is quite well without any return of disease, a period of 8½ years	Mr. Thomas P. Pick.
52	Breast removed from a lady, aged 49, in December, 1880. Three enlarged axillary glands also removed	Tumour the size of a large marble implicated the skin, which was freely removed	In 1886, 6 years after the operation, the cervical glands became implicated on both sides, the scar and axilla remaining sound. She died in 1888	Mr. Teale.
53	Breast removed from a lady, aged 45, in December, 1880. Three enlarged axillary glands also removed	Tumour was the size of a marble, and much skin was implicated	She remained perfectly well until March, 1889, then 9 years after the operation she died of glandular and visceral recurrence	"

54	Removal of breast from a lady, aged 40, in December, 1880. Axilla opened, but no glands removed	Whole mamma and skin very freely removed	In 1887, 7 years after the operation, recurrence took place in the sternum, and was progressing towards a fatal end at last report	"
55	Removal of breast from a lady, whose age is not given, in June, 1884. Three axillary glands removed	Case perfectly obvious	In 1893, 9 years after the operation, she died of local recurrence	"
56	Removal of breast from a single lady, age not given, in October, 1884. Axilla opened, but no glands removed	Marked scirrhus implicating the skin	In 1893, 9 years after operation, a small nodule was excised from near the scar, about 1 inch away. The scar and axilla were sound. In 1896, 12 years after first operation, she succumbed to cancer of the lung	"
57	A woman, aged 60, had the breast removed by the late Mr. Hulke in the Middlesex Hospital in 1891. "No enlarged glands were felt in the axilla," which sounds as though that space was not cleared	Mr. Kellock, the registrar, details the characteristics of the tumour, which was undoubtedly carcinoma	In 1895, 4 years after the operation, this woman began to suffer from uterine hæmorrhage, and the uterus was successfully removed by Dr. A. Routh, who found carcinoma of the body of that organ. The breast scar remains healthy. She is now (1897) apparently well, 6 years after breast operation	Dr. Amand Routh; Mr. Kellock, Surgical Registrar of Middlesex Hospital.
58	A carcinomatous breast was by permission removed by the "cancer curer" Fell in the Middlesex Hospital. The specimen shows the whole mass destroyed and separated with a large bulk of skin	As the case was selected for a test of Fell's treatment we may be sure it was carcinomatous and a bad case	The patient remained well for 22 years, then recurrence of carcinoma occurred in the scar and proved fatal	Middlesex Hospital Museum series, xxx (2114).
59	A lady had a tumour excised from the right mamma in Feb., 1876, by a Portuguese surgeon in the Canary Islands. The growth rapidly recurred and was again removed. These two recurrences took place within 4 months. The third operation was performed by Mr. Willett, who removed the remains of the mamma and some enlarged axillary glands	Microscopical evidence of growth at third operation. Well-marked carcinoma of the chronic type	She died in 1885, having remained well for 9 years. Her death was certified as due to paraplegia and exhaustion. It is highly probable, therefore, that after 9 years the disease returned in the vertebral column	Mr. A. Willett.

No.	Primary operation.	Remarks.	Result as to recurrence and secondary operations.	Source or authority.
60	Left breast removed from a lady in 1885. Enlarged glands cleared from axilla.	Microscopical evidence. Well-marked carcinoma of the chronic type	In 1893 a small recurrence took place under the pectoral muscle, a period of 8 years after the first operation. This was removed, and she had been well since	Dr. Whitwell, of Shrewsbury; Mr. A. Willett.
61	Amputation of left breast and clearing of enlarged glands from the axilla in June, 1891	Microscopical hard carcinoma	Well for 4 years, then recurrence took place in axillary part of scar. This was removed in March, 1895	Mr. J. Newland, of Clifton; Mr. A. Willett.
62	Right breast only removed for undoubted carcinoma in May, 1889	Clinical and microscopical proof	Absolutely well until 1895, a period of 6 years, when a gland began to enlarge in the axilla. This was removed with several others, and they were carcinomatous	Drs. Shipman and Wilson, of Grantham.
63	In 1880 carcinoma of the breast removed from a single woman, aged 45. Some cancerous glands removed from the axilla also	No doubt about case	In 1882 a secondary nodule was removed from the cicatrix. The patient remained well for 10 years, then in April, 1892, an enlarged gland was removed from the axilla, and also in September, 1892. In October, 1893, there was no sign of recurrence in the breast or side, but the patient rapidly succumbed with all the signs of intrathoracic cancer	Dr. Walker, of Peterborough.
64	In 1888 a hard nodular cancer of 7 years' duration was removed. The whole breast, some cancerous glands, and portions of the pectorals were removed, the operation being a very "complete" one. The patient was a short, stout woman, aged 57	Case quite undoubted cancer	She remained well for 6 years, then recurrence took place in the axilla. Now in 1897 it is extensive	Mr. John Murray, Middlesex Hospital; Mr. Roger Williams, of Preston.

(For Report of the Discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. x, pp. 35, 44, 56.)