THE NATURE & TREATMENT OF CANCER:

BEING THE Address in Surgery

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[Concluded from page 7.]

II. CIRCUMSTANCES WHICH MODIFY THE GROWTH AND DURATION OF CANCER.

WE have seen that there are three varieties of the disease, all identical in structure, but differing from each other according to the preponderance of one or other of the primary elements. In some instances the distinctions are well marked, and remain so during the course of the affection; in others, one form may run into the other, either from the commencement, or during any period of its progress. Generally, marked contamination of the system causes the local disease to assume the cerebriform variety, which may be regarded as the highest degree of malignancy, being the most rapid in its progress; and where it does not assume this form from the commencement, it usually presents itself to some extent in the advanced stages, either in connexion with the original growth, or, as a secondary deposit, in other parts. Fibrous cancer, on the other hand, may exist for years with an apparently healthy state of the system, being of slower growth, softening and becoming encephaloid only as the general infection of the system increases. From Mr. Paget's tables, it would appear that the average duration of life from the patient's first observation of the disease in cephaloma is rather more than two years, whilst in scirrhus it slightly exceeds four (*loc. cit.*, pp. 344, 406). We are not so familiar with the history of colloid, but it would seem to occupy an intermediate place between the two.

The degree of contamination of the system, then, frequently determines the character of the local disease; it also influences its growth, sometimes appearing for a time almost stationary in the earlier stages, but in its more advanced form increasing with great rapidity—a point of some importance in considering the advantages of extirpation which, though it may not prevent a relapse, may often postpone the fatal result.

Age has also its influence. Whilst scirrhus and colloid are rarely observed except in adults, cerebriform, though met with at all ages, is almost the only form peculiar to infancy and childhood. Certain periods of life are more liable to the disease than others, for it occurs more frequently between 40 and 50 than between 50 and 60 (Velpeau, *loc. cit.*, p. 435; Birkett, *Diseases of the Breast*, p. 218; Lever, *Med.-Chir. Trans.*, vol. xxii); and this remark is applicable to all the forms of cancer. Dr. Walshe has pointed out another important feature, viz., that the disposition to cancer increases with age. This he ascertained by comparing the number of deaths in proportion to the number of persons living, as given in the Registrar-General's tables, which show that "the mortality from cancer goes on steadily increasing with each successive decade until the eightieth year" (*Cancer: its Nature and Treatment*, 1846). Mr. Paget has arrived at the same conclusion by comparing "the ages at which cancers were first observed by the patients, or ascertained by their attendants" (*loc. cit.*, p. 545). Further, the progress of the disease is slower in the old than in the young, and often assumes the character of an acute affection in the latter, whilst in advanced age it is frequently as chronic. Indeed, a variety of scirrhus sometimes occurs in the breast of elderly females of extremely slow growth, attended only with a slight degree of pain, little disposed to ulcerate, but causing atrophy of the gland, hence termed atrophic cancer, which, if left to itself, will often extend over several years, or even during the patient's life, without causing much inconvenience or swelling of the neighbouring glands (see Appendix, Case i.).

The seat of the disease is in some degree affected by age. During childhood it is usually met with in the eye, brain, extremities of bones, lymphatic system, and cellular membrane; in the middle period of life, say from 35 to 50, the uterus,

mamma, testis, and skin, are its most frequent seat; next in order come the stomach, liver, and intestines. In old age, all tissues appear equally liable to its ravages.

But the structure and growth of the cancerous mass appear to be influenced more by the *situation and nature of the texture* in which it is originally deposited, than by any other circumstance, except perhaps the constitutional infection from which it has its origin.

As regards *situation*, we find scirrhus occurs in the mamma or its immediate vicinity in 95 cases out of 100; cephaloma is met with most frequently in the eye, testis, bone, and cellular tissue; and colloid in the abdominal viscera and peritoneum; whilst the modifications which each present may frequently be traced to the development and incorporation of new structures within them similar to those in which they are deposited. Thus, when cancerous material is found in or in the vicinity of bone, we usually find osteoid processes developed in it; when its seat is the liver, cells resembling hepatic epithelial cells are generally present in its structure; melanotic deposit is found in cancer of the eye; fat abounds in cancer of parts profusely supplied with this substance; and we have seen that epithelia occur in large quantity in cancer of the skin or mucous membranes. In each case, however, the new material is always more or less abnormal, the well known physiological law, by which new structures formed for the regeneration of lost parts invariably assume the characters of the neighbouring tissue, being still in operation, though in a less perfect degree than in health.

The seat of the disease very decidedly affects its growth. It may be stated as a general rule, that it progresses with the greatest rapidity in those parts where nutrition is the most active, as seen in cancer of the liver and kidney, sometimes running its course in those organs in a few weeks or months; whilst in the skin, bone, and cellular tissue, it often extends over several years.

From the tendency of the deposit to infiltrate itself, it is often difficult to watch the effects of *particular tissues* on its growth. There are some parts, however, where it may be observed. Take, for example, cancer of the rectum. Two very different forms of the disease are met with in this part; in one, it usually destroys life in two or three years; in the other, it will often continue for several. In the first, the disease affects from the commencement both the mucous membrane, submucous tissue, and adjacent structures; the morbid material is generally of the scirrhous character, producing the well known form of stricture peculiar to cancer of this part, and gradually closing the passage, unless ulceration ensues which for a time prolongs the life of the patient. In the other form, the disease at first appears to be limited to the mucous membrane, which, on examination, feels nodulated like the surface of a cauliflower—at first tolerably firm, hard, and moveable, but, as it increases and fills up the rectal cavity, becoming softer, and readily breaking down under the finger, being in structure not unlike the cauliflower excrescence of the uterus, or villous cancer, of which it may be regarded as an example. Provided the diseased mass breaks down or is removed, the patient may live for years. Eventually, however, the submucous tissue and surrounding parts become implicated, when the further progress of the disease is identical with that of ordinary scirrhus. In one instance which came under my care, the patient lived between eight and nine years from the first observation of the disease; and another is still living where it has existed at least for ten years (see Appendix, Case ii.).

Cancer of the breast affords another illustration. It is well known that the disease may originate in the gland, in the surrounding cellular tissue, or in the nipple and skin. Cancer commencing in the gland, I need scarcely remark, usually runs its course in a few years; but when the other parts form its original seat, its progress is much slower. In five cases of scirrhus occurring in females between 40 and 50 years of age, commencing in the cellular tissue at a sufficient distance from the mamma to show that it was not implicated (at least, not until the advanced stages), the average duration of life was rather more than seven years from the first detection of the disease. It is still more protracted when it originates in the nipple or skin. I have at present a patient with whom the disease commenced ten years ago as a hard tumour in the areola, with a thickened and brawny state of the surrounding integuments, both of which ultimately ulcerated. The bright florid colour of the skin which occasionally precedes its induration, and has given rise to the popular term of "rose cancer", is also present. The breast itself does not appear to be affected, except from

atrophy; and the affection has passed through its various stages so slowly that it is only within the last few months that the constitutional symptoms have presented themselves.

It would form an interesting subject of inquiry to ascertain the circumstances which lead the disease to attack particular localities. By some the fact is attributed to depressed nutrition of the part; by others, the morbid material in the blood is supposed to possess characters peculiar to each variety of the disease. To the latter of these views it may be objected, that all forms of the disease may be present in the same person, and even in the same tumour, which clearly shows that they must all have one common origin.

There are still one or two circumstances which influence the growth of cancer, to which I should refer. It sometimes happens that, owing to some improvement in the condition of the blood, the progressive increase of the disease is for a time suspended, or it may be temporarily superseded by the presence of another affection. Thus, the development of tubercle may arrest its progress; and, on the other hand, cancer may prevent the development of tubercle; consequently, it is not uncommon to find the remains of tubercles in the lungs of persons dying from cancer.

On some such principle, pregnancy sometimes arrests its progress. An unmarried female had a cancerous breast removed in her thirty-seventh year. She married in a few months afterwards, and during the next eight years had four children. Not the slightest indication of any return of the disease manifested itself until nine months after the birth of the last child: relapse then occurred, which terminated fatally in fourteen months (see Appendix, Case III). A similar case is recorded by Brodie. Writing in 1846, he says, "So long since as 1832, I removed a breast affected with scirrhus; and the lady is still in good health—at least, was so last year. Since the operation, she has married, and had children" (Brodie, *Path. Observations*, p. 200). And the patient to whom I have referred, with cancer of the nipple, has had several children during the ten years that the disease has existed. But, with these exceptions, the affection may be said to be constantly on the increase throughout its entire course; its progress, however, being almost invariably slower during the earlier than in the advanced stages. Taking the average duration of life from its commencement to its termination, in the breast, at four years (Sir A. Cooper's *Lectures*, p. 351), it will be nearly three in its growth, and from twelve to eighteen months in its decay.

III. TREATMENT OF CANCER.

We may, I think, conclude that, if recent investigations have failed to discover any specific sign by which carcinomatous may be distinguished from innocent growths, they have at least satisfactorily proved that cancer is from its commencement a disease of the entire system; though, beyond the development of the tumour, the indications of its being so may not present themselves until the more advanced stages. If, therefore, we are to hope to cure the malady, it must be by directing our remedies as much to the removal of the constitutional as of the local affection. And here the question arises, Is cancer curable?

If we can place any reliance on the statements of our most experienced surgeons, the reply must be in the affirmative. Such a favourable result is, however, regarded as of comparatively rare occurrence, and, when said to have taken place, some have suspected there must have been an error in the diagnosis; but there are cases of cure recorded by men of such undoubted veracity and experience, that we are scarcely justified in admitting such an inference. Sir Astley Cooper, who did not take a very favourable view of extirpation, considered that nine or ten out of the hundred cases of scirrhus mammae he operated on were cured (Chelius' *System of Surgery*, by South, vol. ii, p. 796); and Brodie mentions three where the patients were in good health, one for fourteen, another for thirteen, and the third for six years after the operation (*loc. cit.*, p. 200). South removed one in 1836, and the person remained well in 1847 (South, Chelius, vol. ii, p. 796). A patient of mine is now in good health, where the morbid mass was extirpated in 1847; and Velpeau asserts that some of his are still living, whose cures date back so far as twenty-seven, twenty, fifteen, and ten years (Velpeau, *loc. cit.*, p. 22). But it may be said that these were not cases of cancer. I will, therefore, direct your attention to some less open to the objection, in which, though the disease returned after removal, the relapse did not take place for several years, the recovery being complete in the interval.

In the appendix to this essay, I have given the particulars of

four (Appendix, Cases III, IV, V, and VI) cases which have come under my own notice, where there was complete recovery for nine, ten, nineteen, and twenty-two years, respectively. Callaway operated on a woman who was not destroyed by the disease for twenty-two years; Bransby Cooper, one where the patient remained well for eleven and a half years (Chelius' *Surgery*, vol. ii). Mr. Mitchell Henry and Mr. Shaw have recorded two cases occurring in the same family, where there was no relapse in one for ten, in the other for eleven years, although a strong hereditary predisposition existed to the disease (Velpeau *On the Breast*; and *Lancet*, 1856); and from Mr. Paget's tables it appears that, out of forty-one cases operated on, eight lived between four and six years, two between six and eight, and two between eight and twenty years (*loc. cit.*, vol. ii, p. 346).

We have still another class of cases bearing on this question, viz., those where the disease becomes latent, and remains so for a considerable period, although the tumour has not been removed. Sir A. Cooper testifies to its existence for more than seventeen and twenty-two years; and it is not unusual to meet with senile and atrophic cancers which have been stationary for ten or fifteen years (Appendix, Case I). These examples, which might be easily multiplied, it must be borne in mind, do not include any cases of epithelial cancer—the most favourable form of the disease for treatment—but embrace only instances of scirrhus mamma. They are, however, sufficient to prove—

1. That cancer is occasionally cured.
2. After the removal of the tumour, the progress of the disease may be so completely suspended as to leave the patient apparently free from it for several years.
3. The disease may become latent for a considerable period, even where the tumour has not been extirpated.

The unfavourable nature of cancer precludes us from expecting these results to be of very frequent occurrence. In the acute or highly malignant forms, they perhaps never take place; but in those of slower growth, and where some of the conditions which I have alluded to as retarding their progress are present, we may reasonably hope, by judicious treatment, sometimes to succeed, if not in eradicating the malady, at least in prolonging the patient's life, either by producing temporary freedom from it, or by rendering it for a time latent.

It is of the highest importance that the remedial measures to be resorted to should, if possible, resolve the local disease through the system. Accordingly, every remedy which has been found to exert any influence in causing the absorption of other abnormal deposits, has been tried, but hitherto little or no evidence of any benefit has been obtained. Instances are sometimes met with where the tumour has been removed by absorption, either spontaneously, or perhaps through the influence of treatment. They are, however, of such rare occurrence, that cancerous deposit is considered, under ordinary circumstances, not to be capable of undergoing absorption. Its removal can, therefore, only be effected either by the knife, by caustics, or by the ligature, with which may be included the newly discovered instrument, the *écraseur*. Even these means are regarded by many as of doubtful efficacy; and certainly, when they are undertaken without due discrimination, they do not appear to increase the chances of life, but rather to hasten a fatal termination.

In determining the influence which the removal of the local affection exerts over the constitutional elements of the disease, we are compelled to restrict our inquiries to the consideration of those cases where it has been extirpated by the knife, the information we possess concerning the other plans being too imperfect for the purpose. Numerous statistical tables have been prepared on this subject, and various results have been deduced from them. Their general tenour leads to the inference that the removal of the tumour very slightly, if at all, increases the duration of life. But, in the course of my investigations, I have had reason to doubt the accuracy of these conclusions, the data from which they have been taken not being sufficiently exact. My limits preclude me from entering fully into this subject; I will, therefore, only call your attention to the statistics of Dr. Macfarlane and Mr. Paget, these being the most frequently referred to, as proving the unfavourable nature of extirpation.

Dr. Macfarlane collected 118 cases of cancer of the breast, which had been extirpated with the knife. Of these, 86 were communicated to him through friends; the remaining 32 were cases in which he had operated himself. As the details of the 86 cases are very imperfect, I need not refer to them, but take his own 32 operations, which occurred in individuals whose

ages varied from 42 to 59 years, in all of whom the disease re-appeared within three years, the mean period of relapse being something less than eight months and a week (*Med. Gazette*, vol. xxii, p. 417). Dr. Walshe, who is generally opposed to extirpation, in speaking of these operations, says they "were undertaken under the most favourable circumstances" (*Walshe On Cancer*); but, on reference to Dr. Macfarlane's essay, I find that, in 20 of the 32 cases, "the glands of the axilla were more or less affected"—conditions which would have deterred many surgeons from resorting to the operation at all.

Of 139 cases, records of which Mr. Paget made or collected, and watched to their conclusions, he found that, in 75 cases not operated on, the average duration of life from the first observation of the disease was forty-eight months; whilst, in the remaining 64 who submitted to operation, it was little more than fifty-two months, showing a slight advantage in favour of extirpation (*Lancet*, vol. lxx, p. 62). No details of these cases are given; but, from some remarks respecting the influence which enlarged axillary glands exert on the return of the disease, it appears that, of 30 operations, they were present in 10 (*Surgical Pathology*, vol. ii, p. 350). It may, therefore, be inferred that his tables include both favourable and unfavourable cases. I think, also, we may conclude that extirpation was undertaken in some of them merely to give temporary relief from the pain and offensive exhausting discharges which sometimes occur, rather than with any expectation of prolonging life for any lengthened period.

Amongst the records of upwards of 150 cases, almost all of which I had opportunities of examining, I have been enabled to select 42 of relapsed cancer. Any statistical table, however, prepared from them, in reference to the average period of relapse after extirpation, would be incomplete, because they do not include all the cases that have come under my notice, the records of several having been preserved on account of their possessing some features of interest; but they show that, under certain conditions, patients are decidedly benefited by extirpation. Taking the average duration of life from the first detection of the disease of those not operated on, at four years, I think it may be inferred that, if the patient remains in perfect health and free from any return of the growth for three years after operation, it has added to the duration of life. Twenty-five cases exceeded this period, 5 of which lived for ten, twelve, twenty-seven, forty-five, and fourteen years, respectively, after the removal of the tumour, the last mentioned being still alive. Symptoms indicative of the malignant cachexia do not appear to have been present in any of the 25 at the time of operation. Of the local signs, 5 had retraction of the nipple; but adhesion of the tumour to the skin or the deep seated structures, or enlarged glands, were absent in all. The morbid growth, which, as far as could be ascertained, was of the scirrhus form, was situated in the substance of the breast in 10; on its side, but connected with it, in 10; and at a short distance from it in 5. In none did the growth exceed that of an ordinary egg. In 15, the disease was removed within a few weeks of its discovery; in the remaining 10, which includes all the cases where the tumour was apparently unconnected with the breast, it had existed for periods varying from twelve months to five years. None of the patients seem to have noticed any rapid increase in the tumour immediately preceding the operation. Their ages varied from 37 to 56; and there was decided hereditary predisposition to the disease in 3; it was doubtful in 4. The entire gland was excised in 15 cases, a portion of it only in 5; in the remaining 5, it was not interfered with. As regards the 17 in which relapse took place within three years, 14 presented either local or general indications of an infected system, besides the existence of the tumour. They were absent in the remaining 3. The disease was said to have existed only a few weeks in 5; from six to twelve months in 7; and from one to four years in the rest. The tumour was increasing at the time of operation in 14; rapidly so in 6, 2 of these being cephaloma. It appears to have been stationary in 3 only. It was situated in the substance of the breast in 10; at its side, but connected with it, in 7. The entire breast was removed in 7 only.

There is still another argument in favour of extirpation, viz., that, when the local disease reappears, it is not generally attended with such formidable suffering as when left to pursue its own course; and occasionally, when recurrent cancers are removed, the second recurrences ensue more slowly than the first. Mr. Paget has recorded three examples, one in which the first recurrence was after twenty-four months, the second after sixty; another of first recurrence in twelve, and the second in eighty-four months; and a third of first recurrence in two, the second in twenty-four months (Paget, *loc. cit.*, p. 348).

It must, however, be admitted that, whilst the severity of the local malady is mitigated, the constitutional affection often becomes more marked; on the return of the disease, the growth pursuing its course in the advanced stage with great rapidity, doubtless on account of the system being more completely contaminated.

We may take it for granted, then, that the excision of the local tumour is decidedly advantageous in the general treatment of cancer. Before stating the circumstances which should guide us in adopting this course, it may be well to inquire if the other means are more effectual for the purpose.

Escharotics have long been used, especially for the removal of epithelial cancer; and occasionally with success, these affections being the most favourable for any plan of treatment, on account of their chronic character. Escharotics have, therefore, acquired considerable popularity with those who treat all the varieties of the disease on one principle, or whose want of surgical skill renders them incapable of using the knife. In some cases where excision cannot be resorted to with safety, their utility is acknowledged; but it is in cancer of deep seated structures, and in parts where we can make our election between the two different modes of treatment, that we have to determine the relative merits of each. Unfortunately, there are no reliable statistics which show the effects of caustics; those of Canquoin, who asserted that he cured 82 per cent. with the chloride of zinc, and of Landolfi, who professes to have cured 3000 out of 4000 cases with his paste, having been proved to be fallacious. Most hospital surgeons are opposed to their use, except in the cases already referred to; their objections being based on repeated trials both in public and private practice, and from witnessing their injurious effects in those who have been the unfortunate victims of some "celebrated cancer-curer". I have collected the particulars of seventeen cases taken indiscriminately, treated by these celebrities. Three only were temporarily cured, relapse taking place at the end of fourteen years in one, and in the twelfth and eighteenth month in the others. Of the remaining fourteen, two died from sloughing and hæmorrhage within a few weeks, and twelve were converted into permanently open sores.

Mr. Aston Key is said to have fairly tested the treatment in nearly twenty cases, all of which terminated with the same result as if the knife had been used; and Landolfi treated, before a French commission, nine cases, two of which died; in four, the disease was aggravated; and in three, cicatrization took place, but the disease reappeared. Not one of the nine was cured. A committee was also appointed at Vienna, to watch the effects of his treatment; yet, in six cases selected by himself, "he only cured one; and that was an innocent tumour; a partial hypertrophy of the mamma, for which he destroyed the whole breast quite unnecessarily, and produced a large unsound cicatrix." (Spencer Wells, *Medical Times and Gazette*, July 1857.)*

Even if it could be shown that the two plans of removal were equally successful, when we consider that the tedious nature of the caustic process, its excessive and protracted pain, and in occult tumour the great probability of its conversion into a permanently open and offensive ulcer, which must necessarily exhaust the patient and hasten death, far counterbalance the immediate hazards of excision, which is dangerous only from hæmorrhage or erysipelas—events of rare occurrence, and which may even follow the caustic treatment—it appears that, in deep seated cancers, the advantages are decidedly in favour of the knife, especially as the patient may be made insensible to pain by the administration of chloroform.

* The practice of making free incisions into the tumour, and inserting caustics in the wounds, as originally adopted by Mr. Justamond, in 1780, and recently revived by Dr. Fell, is scarcely more satisfactory, as is shown by the following extract from the "Report of the Surgical Staff of the Middlesex Hospital of Cases treated by Dr. Fell in that Institution," and published since the delivery of this address. "With regard to the numerical results, hitherto observed, in respect to the aggravation and recurrence of the disease:—twenty-one of our cases appeared to have been adapted for the use of the knife; one of them was aggravated by the introduction of the paste. . . . In two of the cases, disease appeared behind the pectoral muscle, while still under treatment. The tumour was extirpated in ten patients; but in three of them cancerous tubercles formed in the adjoining skin; and a fourth has returned to the hospital after an absence of three months since the wound healed, with a fresh tumour in the substance of the breast. One of the patients was sent home for a few weeks, it being doubtful if any disease remained or not. The remainder are still under treatment" (page 45.)

It appears therefore that 13 only of the cases were completed, of which but 5 remained well at the end of the six months.

It is also stated that "the time occupied in the complete extirpation of a tumour by the incisions, is generally longer than when caustics are used in the ordinary way" (page 48); and the pain caused by the treatment is described as having been very severe in several of the reported cases.

But I need not further pursue the caustic treatment (Mr. Langston Parker having so ably discussed it in his address last year) beyond a passing allusion to the latest novelty in cancerous therapeutics, every year usually bringing to light some new specific for this affection. The most recent discovery is that of a root, the virtues of which have long been known to the "mystery man" of the North American Indians, by whom it is considered as a "sacred and great medicine"; and with just reason, for we are told that with it they effectually eradicate this distressing malady. But the blessings of civilisation, it seems, are not without their evils even in the action of remedies; for this remarkable drug, so powerful on man in his savage state, is almost innocuous in his civilised condition; for then it is necessary to call in the aid of a no less potent agent than the chloride of zinc, and this not in any infinitesimal quantity, the proportion being larger than that of the Indian specific itself. It is unnecessary, on such an occasion as this, to dwell at length on the subject; indeed, it would have been unworthy of notice, had not the medical staff of a metropolitan hospital in some measure sanctioned the remedy. Had these gentlemen used a little more caution, and first required proof of the superior powers of the vegetable, unaided by any other remedy, which its advocate asserts it possesses, but has not yet substantiated, they would not have placed themselves in the unenviable position of having had to witness the trial of a nostrum for six months which had no new remedial properties.

But, if we cannot chronicle any advance in medical therapeutics, the surgeon has been provided with an instrument through the ingenuity of M. Chassaignac, termed the *écraseur*, by which in a few minutes are removed tumours that formerly required either the ligature or the still more tedious and painful application of escharotics. In cancer of the tongue, it will probably supersede all other plans; and where the diseased growth is highly vascular, or occurs in weak and debilitated persons, where the loss of a few ounces of blood is of serious moment, it will be found equally beneficial.

Nor must I omit to mention the application of ice and salt, for the production of extreme cold, which, when used for the relief of pain produced by caustics, will be found a valuable addition to surgical therapeutics.

It is scarcely necessary to allude to pressure, which was at one time recommended for the dispersion of the local tumour, the beneficial results which its advocates anticipated from it not having been realised.

As regards, then, operative interference in the treatment of cancer, we are justified, I think, in drawing the following conclusions:—

1. Combined with constitutional treatment, it may be undertaken with the prospect of curing the patient, or of temporarily arresting the disease, when the tumour is of recent formation or of slow growth, and of moderate size, but moveable and easily defined; where the symptoms of general infection of the system have not developed themselves, and pain is absent or only slight. Where these conditions exist, the influence which the age of the patient, the character and seat of the deposit, and the extent of inherited liability to the disease, may exert on its duration, must also be considered.

2. Under less favourable circumstances, it may be resorted to as a palliative, either as a primary or secondary operation, to give temporary relief from severe pain, or from exhausting sanious and offensive discharges, or from mental suffering, or from hæmorrhage which may be attended with risk to life.

3. All operative interference is inadmissible for curative purposes where the tumour is of rapid growth, or, having been almost stationary for years, has suddenly become active; where it is adherent to the skin or neighbouring structures; where there is glandular enlargement, or secondary deposit of any kind; where there is marked cachexia, sallow countenance, and severe pain; or where the patient is advanced in life, and the affection of the atrophic or senile form; inasmuch as it cannot be undertaken without imminent fear of aggravating the disease. It is still more objectionable where the growth is so large as to render extirpation dangerous, either from the extent of wound, or from its encroachment on important organs, cavities, or vessels.

4. As regards the mode of removal, excision is the least painful, and should be adopted in all cases where it is practicable, especially in deep seated occult cancers. Escharotics are preferable in epithelial growths, where the knife cannot be safely used; and also in ulcerated cancers of an extensive and superficial character. The *écraseur* or ligature is chiefly applicable to cancer of the tongue, to highly vascular growths, or

where the disease occurs in persons whose vital powers are so enfeebled that the loss of a small quantity of blood would endanger life or retard recovery.

5. Whatever plan is selected, it is essential to success that, besides the growth itself, a considerable portion of the surrounding apparently healthy structures must be removed; and any gland, bone, or organ, containing the disease, should, if practicable, be completely extirpated.

6. If any of these operative procedures are insufficient alone, they may with advantage be sometimes combined.

But the removal of the local affection will be of little avail, apart from a well directed plan of constitutional treatment. I need not dwell on the numerous remedies which have at different times been recommended, all having hitherto failed. Indeed, considering that we have to contend with an altered condition of the blood and an impaired state of the constitutional and vital powers, it does not seem likely that its specific will ever be met with in any particular drug; these conditions naturally suggesting that it will more probably be found in such a system of treatment as will embrace the judicious combination of medical with dietetic and hygienic means.

Accordingly, the preparations of iron, iodine, arsenic, and sarsaparilla, either alone or combined, according to the peculiarities of the case, and administered at intervals of three or four months duration, the constant use of a highly nutritious non-stimulating diet, with a moderate allowance of light wine, such as claret and hock; frequent change of air, sometimes to the seaside, at another to mineral springs; and attention to the secretions and excretions of the body,—seem to be the measures best adapted to check the progress of the disease. Not only does this course of treatment promote the processes of sanguification and nutrition, but it diverts the patient's attention from the complaint, which, it is well known, materially influences its progress.

Did time permit, I could relate several instances where a steady perseverance in the constitutional plan of treatment thus briefly sketched has enabled patients to live in comparative comfort for several years; and, when combined with the judicious removal of the local disease, I believe we may occasionally succeed either in completely eradicating the complaint, or in giving to the patient such an interval of health and hope as will soothe the gloomy path of life through which those suffering from cancer are usually doomed to pass.

In conclusion, if I have questioned the propriety of admitting as established some of the views recently promulgated respecting this formidable malady, I am far from denying that the investigations now in progress are likely to lead to satisfactory results. We are manifestly on the eve of some valuable discovery respecting the nature and treatment of morbid growths generally, but we may fail in our object by seeking to establish facts from imperfect data. The old maxim, *Festina lente*, appears peculiarly applicable to discoveries in practical medicine; for, unlike the exact sciences, it is so mixed up with doubt and perplexity that it almost lacks the accuracy necessary to give it the hoped for precision. When, therefore, statements are advanced at variance with those fundamental principles of observation and experience which our ancestors have laid down, both the old and new facts should be submitted to the most rigid investigation; for, whilst any discrepancy exists, there must be inaccuracy in either one or the other. By this course we shall protect ourselves from broaching doctrines which might possibly lead to confusion; at the same time, we shall be retesting the accuracy of those which have hitherto been our guides in the treatment of that particular disease to which I have this day directed your attention.

APPENDIX.

CASE I. Atrophic Cancer of Breast. Mary H., aged 60, married, had no children, was admitted into the Manchester Royal Infirmary, July 1857, under the care of Mr. Ransome. Sixteen years ago she perceived a hard tumour, about the size of a small marble, in the left breast; it increased in size, but so slowly that, ten or eleven years after its first appearance, it was not larger than an ordinary sized walnut. She now noticed that the nipple was drawn in, and that the substance of the breast had diminished in size. This decrease has continued, and no vestige of it now remains, the side of the chest being perfectly flat. The appearance is peculiar. A red surface, resembling a cicatrix, with a few superficial ulcerated patches of small size, occupies the site of the breast. In the centre, the remains of the nipple can be seen, in the form of a small red tubercle, of about the size of a pea. Several fissures radiate from it over the surface,

which is more or less puckered. Some indurated glands can be felt in the axilla; and the left arm is œdematous and painful, which is the chief cause of the present discomfort.

From the period she first perceived the disease, has had pain in the part at intervals; and, until within the last few years, she has enjoyed good health. No treatment, beyond the application of plaisters to relieve the pain, has been adopted.

The catamenia ceased at 48; and she has only noticed progressive loss of flesh and strength during the last two years.

CASE II. *Epithelial Cancer of Rectum, of twelve years duration, treated by Escharotics.* Mrs. P., aged 35, married, having had two children, came under my care in 1847. She had been suffering from an affection of the rectum for upwards of twelve months, which caused a burning sensation in the part, pain in defæcation, and the discharge at intervals of blood and pus. On examination, there was nothing unnatural about the anus; but, on introducing the finger into the rectum, its cavity was found to be distended by a cauliflower-like excrescence, which appeared to spring principally from the posterior surface. It was very friable, readily breaking down under the pressure of the finger. There were also several irregular indurations in other parts of the rectum. The disease did not appear to extend to the surrounding parts, the rectum being to a certain extent movable. There was a fulness in the left iliac region, which disappeared after the bowels had been freely emptied by purgatives. As the excrescence could be readily broken down with the finger, it was removed several times, which gave considerable relief to her sufferings. But, the induration increasing, and threatening to permanently obstruct the bowel, some caustic potash was applied to its surface, by means of an instrument I had constructed for the purpose,* which caused portions of it to slough and keep the passage free. This operation has been repeated at intervals ever since, and has afforded considerable relief.

Though the disease has existed for twelve years, the patient is still able to attend to her household duties, her general health not having suffered much from the complaint. The medical treatment has consisted in the administration of the iodide of iron at intervals for two or three months at a time, the occasional use of morphine to relieve pain, the regular administration of mild purgatives, and attention to diet, which has been composed of light non-stimulating nutritious food.

CASE III. *Scirrhus of Breast: Extirpation: No Return of the Disease for nine years.* Ann W., aged 37 years, was admitted into the Manchester Royal Infirmary in 1836, suffering from a tumour of the left breast, which she had only noticed a few weeks previously. It was hard, of about the size of a small orange, and situated in the substance of the organ, to the right of the nipple, which was slightly retracted. The breast was movable, and the tumour free from adhesions to the skin. The entire breast was excised by the late Mr. Ransome, and a section of it showed that the growth had the usual appearances of scirrhus. The patient recovered in a few weeks from the operation; and married about eight months afterwards. During the next eight years, she enjoyed excellent health, and had four children, all of which she nursed. About nine months after the birth of the last child, the disease reappeared in the cicatrix, and caused death in about fourteen months.

CASE IV. *Scirrhus of Breast: Extirpated: No Return of Disease for upwards of ten years.* John Leigh, aged 62, was admitted into the Manchester Royal Infirmary in 1855. Twelve years previously, he had been a patient of the institution for a tumour of the left mamma, which was removed by Mr. Robert Thorpe. The disease was situated below the nipple, about the size of a hen's egg, movable, but not painful. After removal, it was found to present the usual appearances of scirrhus. He continued in good health until within the last six or nine months. He has now a large fungoid growth, hard at its base, but movable; it is painful, and appears to be rapidly enlarging, not having noticed it before the last six months, when it first appeared as a hard tubercle in the cicatrix. Within the last few months he has lost flesh, and his countenance is becoming sallow.

The growth was removed, but the disease reappeared before cicatrization was complete.

CASE V. *Scirrhus of Breast: Extirpated: No Return of Disease for nineteen years.* Miss T., unmarried, in the year 1832 first

noticed a tumour in the left breast, for which she placed herself under the care of Mr. Thorpe and Mr. Ainsworth, surgeons to the Royal Infirmary. They recommended its removal, to which she submitted about six months after having first detected it. The entire breast was extirpated; and, on examination, the tumour was found to be about the size of a small hen's egg, embedded in the substance of the breast. Mr. Thorpe informed me that it presented all the characters of scirrhus. At the time of the operation, she was in her thirty-eighth year, and in good health. She had suffered no inconvenience from the tumour, but it had caused slight retraction of the nipple. There was no return of the disease for nineteen years, when a number of small tumours began to appear in different parts of the body. She first perceived them in the cicatrix and its vicinity. She came under my care about twelve months after their appearance, when they had extended over the body. Some were situated in the skin, others in the cellular tissue. They varied in size from that of a millet-seed to a large filbert. They were hard, and those in the skin were similar to the tubercles often met with in connexion with recurrent cancer of the breast. Some ulcerated, the edges of the ulcers being hard and indurated. With their appearance, her general health began to decline; and she died very much emaciated, in her sixty-second year. She was continually under medical treatment during the last five years of her life, and appeared to derive benefit from the occasional use of the iodides of arsenic and iron, combined with generous diet and frequent change of air.

No post mortem examination was permitted, beyond the removal of a few of the tumours. On examination, they presented the ordinary characters of scirrhus, cancerous juice exuding from them on pressure, which, under the microscope, appeared to consist principally of tessellated scales and cells similar to those found in epithelial cancer. Two of the larger tumours, situated in the cellular tissue, contained some cerebri-form matter, in which nucleated cells were discovered.

CASE VI. *Scirrhus of Breast: Extirpated: No Return of the Disease for twenty-two years.* Mrs. C., married, had no children, first noticed the disease when in her fortieth year. The tumour was situated in the substance of the breast, on the outside of the nipple, and a short distance from it. It was about the size of a small hen's egg, movable, and free from pain. A few weeks after its discovery, the tumour, with the half of the breast in which it was situated, was extirpated by Drs. Hull and Wood, of Manchester, the nipple being left. The wound healed in a few weeks, and she remained free from any return of the disease for upwards of twenty years. About twenty-three years after the operation, her maid discovered a dimple in the breast, near to the nipple. The parts surrounding it were hard, but only over a small space. The hardness gradually increased; at length the nipple began to retract. No material change took place for about four years. A tubercle then appeared on the surface of the dimple; and the surrounding skin contracted, giving to the part the appearance of a cicatrix. The tumour now became adherent to the deep seated parts; and at times she had severe paroxysms of pain in it, to relieve which anodyne plaisters were frequently applied. The disease remained stationary until about her seventy-fifth year, when the tubercle began to ulcerate. The ulcerative process was extremely slow, the part not requiring the dressings to be changed oftener than once a week for a considerable period. As the ulceration extended, the breast became harder, and the discharge greater; but still the dressings were not changed oftener than every second or third day, until the last two years of her life; it then required dressing daily, the ulceration having extended to the size of the palm of the hand. The sore, the edges of which were much indurated, now occasionally bled; but the hæmorrhage was easily checked by lint and pressure. The countenance only exhibited the usual appearances of the cancerous cachexia during the three or four years which preceded her death, which took place in her eighty-fifth year, in 1850.

The constitutional treatment consisted in the use of a generous diet, with a moderate allowance of wine; and medicine was only administered when the secretions became disordered. She travelled during several months in the year, and every means which could divert her mind from the disease were resorted to. I only saw her occasionally during the last few years of her life; but the late Messrs. Wilson and Barker, of Manchester, who attended her for several years, informed me that Drs. Hull and Wood entertained no doubt of the original tumour being cancerous.

* This *porte caustique* was made by Messrs. Wood, surgical instrument makers, of Manchester; and is so constructed that potassa fusa may be applied to morbid growths in the rectum, vagina, or throat, without injury to the surrounding healthy structures.