Illustrations OF VERY EARLY CONDITIONS OF CANCER OF THE TONGUE

[WITH COLOURED PLATE.]

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MEDICAL men are frequently urged to operate or to recommend operations for malignant disease when the disease is in an early stage. The advice is good, and at the present time appeals to the bulk of our profession, with the result that operations for malignant disease of many parts of the body are performed much earlier than they used to be. Tumours of the breast are frequently subjected to operation within a week or two of their discovery; and if the nature of the disease is uncertain, nevertheless operation is advised, with the object of clearing up the doubt, and, if the examination should prove that the tumour is malignant, of removing it without delay.

There are other parts of the body in which operation is resorted to, although there is no perceptible tumour, with the intention of discovering malignant disease and removing it while it is yet within the reach of removal. And there are still other parts of the body in which it is possible to follow the development of malignant disease almost from its commencement, and in which early operation is of the highest importance. Yet because the early stages of the disease are not appreciated, or because they are half-concealed by some previous and often long-standing disease, they are overlooked, with the result that operations which would be so useful, if they were practised early, are deferred for weeks or months after they ought to have been performed.

The object of this communication is to draw the attention of medical men to the diagnosis of very early malignant disease of the tongue, so early and apparently so insignificant that I have only learned within the last two years to recognize it myself.

For many years past I have been in the habit of apportioning three stages to the development of the large majority of cases of cancer of the tongue:

1. *Predisposing conditions*, such as leucoplakia, ichthyosis, chronic superficial glossitis, which may exist for many years without the occurrence of cancer; but which undoubtedly render the individual much more liable to cancer than are individuals in whom the tongue is healthy.

2. *Precancerous conditions*, such as warty growths, thick plaques, sore places, which are not actually cancerous, but which inevitably proceed to cancer unless they are completely removed or destroyed. I have described and figured such conditions, and have demonstrated them during the last ten years or more, and I had no doubt of their existence or of their serious importance.

3. *Actual cancer*, in one of its various forms, when it is obvious to an educated surgeon, and ought to excite suspicion in the minds of persons who are not experts.

I have frequently been greatly distressed at the long time during which actual cancer of the tongue has been under observation before either the medical man or the patient has become aware of the gravity of the disease. But I never knew until two years ago that I was myself guilty of failure to recognize cancer of the tongue in its earlier, if not its earliest, stages. And I might have remained in the same condition of ignorance had it not been for the Imperial Cancer Research and the assistance of Dr. Bashford and his colleague, Dr. Murray, who have been associated with me throughout the investigation on which this paper is based, and to whom I am more indebted than I can tell.

About two years ago Dr. Bashford asked me whether I could furnish him with very early conditions of cancer of the tongue for the Imperial Cancer Research. I replied that I would certainly do so, and that if I could I would do more than this, for I would furnish him with

specimens of precancerous conditions of the tongue, so that he might study the transition into actual cancer.

CASE O.

Within a fortnight of our conversation a lady was brought to me who for years had suffered from soreness of the tongue, and in whom quite recently a little plaque had formed in the midst of the sore surface. She had chronic superficial glossitis of a great part of the fore part of the dorsum of the tongue, with areas of thin leucoplakia. To the left side of the middle line was a very small plaque, smooth, red, glossy, and firm. It did not feel thicker than a threepenny piece, was only slightly raised above the surrounding surface, and looked and felt more like a hard sore than any other disease. I formed the opinion that it was not yet malignant, but that it was one of my precancerous conditions, and would certainly become cancerous if it were not removed or completely destroyed. I therefore urged its removal. The operation did not take place for three weeks, and in the meantime the patient consulted a distinguished surgeon, one of my colleagues on the Council of the College of Surgeons. He also took the view that the disease was not yet cancer, but was not at all hopeful of curing it by any treatment short of removal or destruction. But he thought it would be safe to treat it for six weeks before resorting to operation. However, the patient determined in favour of operation, and I removed the whole of the diseased surface of the tongue, cutting deeply into the muscular substance beneath the plaque. The material was prepared according to Dr. Bashford's directions, and four days later I received from him a letter in which he said: "The tumour appears to me to be a very young epithelioma . . . and likely to be of value to us." I examined the slides and agreed with Dr. Bashford. The structure was typical of a small flat epithelioma. It was not a precancerous condition, but an actual cancer, and it had not been recognized by two surgeons who may fairly be regarded as experts. Unfortunately, Miss Mabel Green was not drawing for me at that time, and no picture was made of the disease. On the other hand, fortunately, the condition of the tongue in Case II was so exactly similar to that of this lady's tongue, that the picture of Case II might almost have been drawn from Case O.

CASE I.

Towards the end of September, 1904, a gentleman, 68 years old, was sent to me by Dr. Roxburgh, of Weston-super-Mare, with a small white warty lump on the right border of the tongue. It felt firm, and I took it to be either precancerous or actual cancer, but was not quite sure which. There were old areas of leucoplakia on both borders of the tongue, and he had suffered pain in the right border since January, 1904, when he bit it by accident. Dr. Roxburgh told me he had examined him carefully in the beginning of July, and had only with difficulty discovered a tiny fissure, and this appears to have continued for more than a month. From early in August to September 17th, Dr. Roxburgh did not see him; and, when he did, he found, to his surprise, that a little white lump, with slight induration about its base, had taken the place of the fissure. He at once sent him to London for my opinion. I removed the right border of the tongue, and the disease was proved by microscopical examination to be epithelioma. Ten days later the contents of the anterior triangle of the neck were removed. The glands were enlarged, but did not exhibit the appearances of epithelioma, either to the naked eye or to the microscope. Here, again, a condition which I had always regarded as precancerous proved to be actual cancer.

CASE II.

In November, 1904, a gentleman, 47 years of age, whom I had seen first in 1896, and again in 1899, for superficial ulceration and leucoplakia of the tongue, consulted me for the third time under the following circumstances. Within the last few days he had noticed a change at one point on the dorsum of the tongue. He did not attach much importance to it, believing it was only another such ulcer as he had frequently been cured of. But as his medical man was attending in the house he asked him to look at it, and was advised to show it to me without delay. The conditions were precisely like those of Case O. With the experience of that case fresh in my mind, I believed

the disease to be early epithelioma, and I urged him to have it removed. He at once consulted a well-known surgeon, also one of my colleagues on the Council of the College of Surgeons, who expressed the view which I should certainly have held a few months earlier—that the disease was not yet cancer, but that he had better have it removed lest it should become so. Even then the patient was not content, but went to Germany to consult an eminent surgeon in Bonn. He was advised to have the disease removed, and, if it proved to be epithelioma, also to have the glands removed, as I had already counselled him to do. Dr. Bashford examined the plaque and reported thus: "The tissue you were so good as to fix up for us from tongue is typically epithelioma. . . . Perhaps I may add that the tumour is already a fully-developed epithelioma, if still small." Eight days after the operation on the tongue the contents of the anterior triangle were removed. Many of the glands were much enlarged and firm almost to hardness, but no cancer was discovered in them.

In this case it will be seen that my colleague had not recognized actual cancer when he saw it, and I should have held a similar opinion had it not been for the experience gained in Case o. I showed him the sections which had been prepared by Dr. Bashford—for he is a skilled microscopist—and he at once agreed that there could be no doubt of the cancerous nature of the disease.

CASE III.

In the following month, December, 1904, Sir Felix Semon sent round to me a gentleman, aged 56, who had consulted him twelve years previously on account of white areas on the tongue. Some time in 1903 a provincial surgeon of repute had removed a small wart from the left side of the dorsum of the tongue; and now, more than a year after the removal of the wart, there was a tiny hard plaque perceptible rather to touch than sight, in the midst of a wide area of leucoplakia, which was generally disposed to be warty on the left half of the dorsum. Sir Felix thought that a more radical operation than mere removal of the one spot should be practised, and with this opinion I quite agreed, particularly because I had a suspicion, founded on the previous cases, that the tiny spot might already be epithelioma.

Three days later the whole of the diseased surface of the tongue was removed deep into the muscle, and the tongue was remoulded. The material was submitted to Dr. Bashford, who reported on it towards the end of the month: "I am afraid that I forgot to let you know that the specimen from Case III's tongue is a young epithelioma somewhat earlier than that from Case II." The glands were not removed in this case.

I may say at once that I should not have had an idea that the disease was already epithelioma had it not been for Cases o and II.

CASE IV.

On January 2nd, 1905, a gentleman, 54 years old, whom I had first seen twelve years previously for superficial glossitis and white areas on the tongue, came to me with a flat, very smooth, red plaque on the left half of the dorsum of the tongue. It was very little indurated and slightly raised, especially on the left border, which just overlapped the surface of the tongue, so that it could be raised from off it. He was sure this had formed quite within the last two or three weeks, and thought he must have burned the tongue at that point. I was quite certain it was an epithelioma, and judged it to be a further development of such a condition as is exhibited in Case II of

the coloured plate. Four days later I removed all the affected portion of the tongue, including its entire thickness for some distance around and behind the plaque. Dr. Bashford pronounced the disease to be epithelioma. Eight days later the contents of the left anterior triangle were removed, and, with them, the glands under the jaw for a little distance on the right side. The gland immediately behind the symphysis of the jaw was the size of a large pea, very hard and commencing to be fixed to the surrounding tissues. It looked to the naked eye certainly cancerous, but Dr. Bashford, although he thought the microscopical appearances very suggestive of cancer, would not undertake to say that the disease could be demonstrated in it. From this and other cases I have come to the conclusion that microscopic examination will not yet enable us to discover cancer in glands when the disease is in an early stage, probably because the cells of the new growth are still so much overlaid by the confused structure of the gland that they cannot be properly distinguished.

In January of this year I removed a little flat epithelioma from the stump of the tongue, where it had been frequently rubbed by an isolated tooth. It was not a recurrence in the accepted use of the term, but a fresh occurrence of epithelioma due to a definite perceptible cause. The condition of the remainder of the tongue and of the glands left nothing to be desired.

CASE V.

On April 27th, 1905, I was consulted by a gentleman, 47 years of age, for a small, flat, but slightly raised and indurated ulcer of the under aspect of the right side of the tip of the tongue. The surface was glazed and red, like the surface of the plaques in Cases o and II. For several months he had suffered from pain at the place where the ulcer was. On March 10th his doctor saw him for the first time, and told me, in a letter, that he only found a small ulcer "which seemed in every way a trivial condition." He did not see it again till April 10th, when he was "surprised to find the ulcer had not healed, that it was, in fact, much larger, with a considerable degree of surrounding induration." There were no perceptible glands in the floor of the mouth or neck. On April 29th I

removed the disease very widely, when the ulcer was found to be epithelioma. The glands were removed by a large operation on May 5th.

In this case the diagnosis was not nearly so difficult on account of the elevation of the ulcer and the induration of its base. Still, it is an example of a very early condition of epithelioma, and well worthy of study.

CASE VI.

On May 16th of the same year a gentleman, 54 years old, was sent to me by his medical man for an opinion on a small, nodular, hard red plaque, beginning to ulcerate, which had only been observed three weeks previously. A year previously he had had a small sore at the same place, but it was quickly cured, and nothing had been seen or felt afterwards until the present disease had been discovered owing to a little feeling of stiffness. The plaque lay across the frenum linguae, and it is noticeable that it drew the tissues of the under aspect of the tongue towards itself, after the manner of many cancers of the breast. There was one small hard gland in the middle line in front of the hyoid bone. The disease was very freely removed, and nine days later all the tissues beneath the floor of the mouth, including the submaxillary salivary gland on both sides, down to and including the tissues below the bifurcation of the carotid on both sides

COLOURED PLATE.

(Compare with Microscopical Drawings in Black and White).

Case III.—Old leucoplakia of the tongue, of many years' duration, with the very earliest condition of epithelioma to the left of the middle line, in the form of a very small area of leucoplakia, a little more raised and a little firmer than the rest of the areas of leucoplakia. The recognition depended as much on the slight hardening as on the appearance of the area, and can scarcely be suggested in a sketch.

Case V.—Small cancer under the fore part of the tongue. Shows the well-defined margin and red areola, but does not show well the prominence of the ulcer.

Case II.—Old leucoplakia of the tongue, of many years' duration. Quite recent development of epithelioma, in the form of a very slightly raised, smooth red plaque, feeling about as thick as a sixpenny-piece. Between this plaque and the middle line is a tiny nodule, looking almost like a little pimple.

Case I.—Area of thin leucoplakia of the right border of the tongue, with a small epithelioma, which developed in the site of a bite which occurred several months previously.

Case IV.—Old leucoplakia of the tongue, of many years' duration, with a recent epithelioma of the left side, in the form of a red, raised, flat, smooth, area, with a very slightly overhanging outer border. Submental gland epitheliomatous.

Case VI.—Elongated, flat, warty cancer lying across the frenum linguae. Shows the manner in which the surrounding mucous membrane is drawn towards it.

CASE III.

CASE V.

CASE II.

CASE I.

CASE IV.

CASE VI.

× 12

Case III.

× 100

× 12

Case V.

× 70

× 12

Case II.

× 100

× 12

Case I.

× 70

× 12

Case IV.

× 7

× 12

Case VI.

× 7

were removed. The glands were enlarged, but did not exhibit the characters of cancer, either to the naked eye or to the microscope.

Thus far, with the exception of Case iv, from whom I removed a second epithelioma on the stump of the tongue, all the patients remain well and free from recurrence of the disease—a striking testimony to the advantage of very early operation for the removal of epithelioma of the tongue. The glands were removed in 5 of the 7 cases, the exceptions being Case o and Case iii. I should like to have removed them in every instance, for I have lost a patient within the last few months from secondary affection of the glands, which did not make its appearance for more than three years after the successful removal of one of the smallest cancers of the border of the tongue that I have ever seen.

Let me recapitulate the forms under which the disease commenced in these 7 cases. They are four in number:

1. A flat, very slightly raised, smooth, red glazed plaque, feeling like a thin piece of gristle in the surface of the tongue, not thicker than a threepenny or sixpenny piece, and looking and feeling just like a primary hard sore. (Cases o and ii, to which may be added Case iv as a probable further stage of the same condition.)

2. A white, warty growth, not ulcerated, and scarcely indurated at its base. (Case i.)

3. A slight thickening and hardening of an old leucoplakic area, rather distinguishable to feel than sight, very likely an earlier stage of No. 1. (Case iii.)

4. A nodular plaque, red, and commencing to ulcerate, with drawing-in of the surrounding tissues. (Case vi.)

Two years ago, before my eyes were opened by the work of the Imperial Cancer Research, I should have regarded five out of the seven as precancerous conditions, and I am now wondering whether there are really any conditions perceptible to human sight and feel which are precancerous in the sense in which I have been accustomed to employ the term.

Many persons will wonder why I have been so slow to discover the true nature of these conditions. I can only answer that I am humiliated at my ignorance, and can only plead, in excuse for it, that I could scarcely ever, a few years ago, persuade patients to submit to operation for these conditions. And, if I had removed them, it is quite possible that their real nature might have been overlooked unless they had been examined in continuous sections after the manner which is now commonly practised in the investigation of cancerous and doubtful growths.

Clinical Remarks

ON THE

EARLY RECOGNITION OF CANCER OF THE BREAST.

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THERE are cases of cancer of the breast in which the tumours are so small that a positive diagnosis of cancer is rendered doubtful by unaided clinical signs. The management of these cases requires earnest reconsideration. The importance of the matter is increased by the knowledge that a small cancer need not necessarily be an early one; and if one considers upon what the clinical signs of cancer of the breast depend, one must at once realize that the definite and classical clinical signs—even the earliest of them—owe their existence to a degree of spread of the disease which must reach certain stages before the signs for which we so anxiously search are recognizable.

In hospital and private practice the majority of the breast cancer cases come for consultation and operation after they have been watched for periods that vary from about two to twelve months, and often much longer. It is needless to point out how invaluable is the time lost in these months, for during the watching period cases must frequently pass from the curable into the incurable stages, and in the early treatment of cancer the saving of time means the saving of life.

Therefore, the ideal management of a case in which the clinical signs of cancer are not clear is not to wait until the cancer has spread sufficiently to render them so, but

to settle the matter at once by a complete macroscopical and, if necessary, microscopical examination, the essential details of which I shall allude to later. To illustrate the point of view which needs expulsion from our methods I will relate the following type of case: A woman at the age of 27 years consulted a surgeon (with her medical man) three years ago with regard to a small tumour in her breast; the surgeon told her it might or might not be cancer, and for the present he "would give her the benefit of the doubt" and would watch her case. A year after, when the clinical signs of cancer had become undoubted, the breast and its lymphatic vascular system were as thoroughly removed as possible, but two years after the operation she died with cancer in the lungs, liver, and a rib; there was no evidence of disease in the area of the operation. Now, it is quite obvious that by adopting the waiting and watching policy the surgeon responsible for the management of this case did not give his patient "the benefit of the doubt." "The benefit of the doubt" would have been given her by clearing it up, which at that time could have been done only by a more complete examination. The diagnosis of cancer would have been made. The complete operation would then have been performed. One year of the cancer's spread would have been stopped, and possibly her life would have been saved.

It must be understood that on the conclusion arrived at from the evidence obtained by the first examination will depend the future management and probably the future safety of the case.

In this article I propose to demonstrate:

1. How to examine a breast case clinically, and at the same time point out how the examination must lead to the certainty of malignant disease in some cases and to uncertainty of it in others, especially those in which the cancer is too small to give rise to the typical signs of its presence—that is, the very cases which it is so essential to diagnose and treat early.

2. The management of a case in which the clinical examination leaves the positive diagnosis of a small cancer uncertain.

THE EXAMINATION.

The best position for the patient is flat on the back and on a fairly high table. I regard the recumbent posture as a great aid in the diagnosis of all diseases of the breast. Both breasts must be well exposed for the comparison of the abnormal with the normal side.

A.—Palpation of the Breast.

The breast tissue must not be picked up, but must be palpated by the soft pads on the palmar surfaces at the top of the fingers, by which both breasts should be gently rolled over the underlying thorax. Any swelling, nodule, or irregularity which is discoverable clinically will be at once felt. The object of this examination is to discover:

1. Whether both breasts contain nodules, swellings, or irregularities.

2. Whether the breast complained of be the only one affected, and if so, whether there is one or more than one lesion in it.

The observations have the following value in building up a diagnosis for or against cancer.

Should multiple nodules or swellings or irregularities be found in both breasts the diagnosis is probably one of chronic mastitis or cystic changes, or combined cystic changes and chronic mastitis.

Should multiple nodules or swellings or irregularities be found in one breast only, the diagnosis is, with some exceptions to which I shall refer later, in favour of chronic mastitis or cystic changes, and not cancer. But should only one nodule or swelling or irregularity, or even a swelling surrounded by a small area of irregularity, be found in one breast, it is probably a tumour, and hence may or may not be cancer.

The same conclusion applies to one nodule, swelling or irregularity in each breast; both breasts being affected is a sign *per se*, which is rather more in favour of chronic mastitis than cancer. But although cancer in both breasts is rare, one of the breasts may contain cancer, hence too much mental bias must not be allowed in any direction when one lesion exists in each breast.

B.—Retraction of the Skin.

Having discovered swellings or irregularities in both breasts or only in one breast, or having discovered one swelling, nodule, or irregularity in one breast only, the