a large increase of lecithin as compared with the normal. He finds also an increase of lecithin in the faeces in tabes and general paralysis, and a great decrease in the bone marrow. He considers that tabes and paralysis are associated with a progressive impoverishment of the body in lecithin. It is more probable that there is an impoverishment of lipoids.

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ON THE EARLY DIAGNOSIS OF CANCER OF THE TONGUE, AND ON THE RESULTS OF OPERATIONS IN SUCH CASES.*

By HENRY T. BUTLIN, F.R.C.S., D.C.L.,
CONSULTING SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

IN the first week in January the BRITISH MEDICAL JOURNAL published the results of my operations for cancer of the tongue on 197 patients. They were, after the paper had been put together, brought up to 200. The results remain very much the same, for no further death occurred as the result of an operation, and a couple of cases have been added to the list of "successful cases." A medical journal, commenting on my paper, expressed surprise that the total number of cases was so small, and, while believing that I had perhaps performed more operations for cancer of the tongue than any other British operator, evidently thought that some of the Continental or American surgeons must have operated much more frequently. I own that, when I put all my cases together, the number seemed to me small for five-and-twenty years' work of a surgeon whose name has been associated with cancer of the tongue for a great part of that time. So I looked to see what had been done elsewhere. I think that Professor Kocher, in a longer series of years, has not operated on more than 120 to 140 patients. Billroth had comparatively few cases. And no other Continental operator seems to me to have exceeded 100 cases; few of them have nearly approached that number. On the other hand, I think Mr. Whitehead, whose name was justly held in the greatest esteem throughout the world for his operation for cancer of the tongue, probably operated on quite as many patients as I have done.

The limited number of cases which come under the care

of any one surgeon led me to wonder how frequent cancer of the tongue is; and, as I could not find any definite published information on this matter, I wrote to Dr. Tatham of the General Register Office. With his usual courtesy and readiness to afford assistance to those who are studying death-rates, Dr. Tatham at once sent me information to the effect that during the seven years, 1901-7, there died in England 5,253 persons of cancer of the tongue, making a yearly average of 750. I suppose another 50 to 70 cases may be added to account for the persons who are treated successfully, but I am afraid that is rather a large estimate. Still, it may probably be roughly reckoned that about 820 people suffer from cancer of the tongue in England every year, and that 750 of them die of the disease, either with or without operation. Surely, a result not very creditable to surgery! Yet, I think we in this country probably show as good or better results of our operations than the surgeons of any other country. For the feeling on the Continent and in America is absolutely pessimistic regarding cancer of the tongue. One of the most distinguished of the American surgeons wrote recently to tell me that, in about 36 cases, he only knew of 2 definite cures. And one of the chief Austrian surgeons told me in September that he did not remember ever to have had a successful case. Professor Kocher appears to be one of the very few surgeons who is really hopeful over his results.

For a long time it has been evident that we must operate earlier if we are to hope for better results. Billroth spoke of the importance of early diagnosis years ago, but no one has really worked at it until quite recently. Circumstances were against us all: such as the difficulty of persuading doctors and their patients to submit to operations for what were not certainly known to be cancers; the imperfect examination of the reputed precancerous conditions when they had been from time to time removed.

Fortunately, five years ago Dr. Bashford, of the Imperial Cancer Research, asked me for specimens of early cancer of the tongue; and, still more fortunately, the first material which I gave him, and which I believed to be a precancerous condition, proved to be typical epithelioma. This roused my suspicion regarding precancerous conditions and led me to urge persons suffering from what appeared to be almost trivial conditions to submit to operation. I suppose I have become a greater master of the art of persuasion than I was ten or more years ago. But sure it is that I have succeeded in collecting a dozen cases of very early cancer and have had them all carefully drawn; and the microscopical examination has been made by the Imperial Cancer Research.

And, again, happily the BRITISH MEDICAL JOURNAL has published excellent reproductions in colour of twelve of my drawings, and these have been sent out all over the world, so that the knowledge of the appearance of early cancer of the tongue has been very widely spread. This is a great tribute to the liberality of the British Medical Association and to the enterprise of the Editor of the JOURNAL and the General Manager.

The conditions which are represented may fairly be divided into five classes:

1. A little plaque like a hard sore, smooth and polished, but neither ulcerated nor excoriated.
2. The transformation or replacement of a simple ulcer by a cancerous ulcer, which only differs from the simple ulcer by feeling a very little stiffer and a very little firmer.
3. The transformation of an entire plaque of leucoplakia into a plaque of cancer. The difference is marked by very slight thickening, a denser white, and furrowing or fissuring in various directions, but without excoriation or ulceration.

4. The transformation of one small area of a leucoplakic tongue into cancer, only marked at first by very slight and superficial hardening.

5. A white warty growth or compound wart, neither broken or ulcerated, and feeling at first as if it were fixed to the mucous membrane, and quite superficial.

There are other conditions in which cancer of the tongue begins, but these seem to me to be the most frequent and the most typical.

I am sure the Fellows and Members would like to know the results of the surgical treatment of these early conditions. There are twelve cases of which I have drawn

* Delivered before the Royal Society of Medicine, February 12th, 1909.

ings, and two cases which occurred before Miss Mabel Green had begun to draw for me. I include these two cases because they have already been referred to in the BRITISH MEDICAL JOURNAL, and are of especial interest.

The incisions only aimed at free removal of the cancer, with a sufficiently wide area of surrounding healthy tissue. Of the 14 patients, 3 are dead—one of nephritis and heart failure a year and a half after the operation, and without recurrence of the cancer; one of affection of the cervical glands without recurrence in the mouth; and one, who was operated on for cancer of the right border of the tongue, of cancer of the left border of the tongue, which he would not allow to be cut out until the glands were diseased beyond the reach of operation. The tongue between the two borders was quite healthy. The remaining 11 patients are alive and well at periods of eight months (1 case), one to two years (2 cases), two to three years (2 cases), three to four and a quarter years (6 cases). One patient of the last group, for whom I removed the left half of the tongue to very far behind the disease, and the lymphatic glands, suffered a year later from a fresh outbreak of epithelioma on the tip of the stump, where it was constantly rubbing against a large lower molar tooth, decayed and isolated. At the present time, three years after the removal of this second cancer, he is quite well. It may therefore be claimed that there is not a single case of local recurrence of the disease in any of the 14 patients, although 8 of them lived for three to more than four years after the operation. The glands were removed in 9 of the cases.*

The extent of the operation was generally quite out of proportion to the size of the cancer. But this was in order to remove long-standing leucoplakia and chronic superficial glossitis, from which the patient had in most cases suffered for years. On the other hand, there were two cases in which the cancer was removed between two elliptical incisions which were only just wide of its borders. In both these cases the disease was of very limited extent. The actual cancer in one of them measured about $\frac{1}{2}$ in. across by $\frac{1}{4}$ in. in thickness. It was one of the smallest cancers of the tongue which I have ever seen. The incisions passed pretty deeply into the muscular substance of the tongue. There was never any local recurrence, and the defect in his tongue was so trivial that his medical attendant, who had not been told of the operation, examining his mouth more than three years later to discover the source of infection of enlarged glands from which he was then suffering, did not perceive that his tongue had ever been operated on. Yet he died of epithelioma of his glands due to that tiny cancer. I have brought sections of another very small cancer of the tongue which was cut out by a very moderate operation, but which killed the patient through his glands, although it never recurred in his tongue.

At this moment, it would scarcely be too much to say that the air is charged with the emanations of radium. We are told that epithelioma of the tongue can be cured by radium. Had I been asked my opinion on this question a month ago, I should have said that, although two or three people in different parts of the world have claimed this power for radium, the general belief is that rodent ulcer is the only variety of malignant disease which radium is competent to cure. And I should have added that the only case of epithelioma of the mouth in my own practice to which radium had been applied (by the most skilful man with the best material) had ended disastrously. But I have, within the last few days, seen a case in which a typical epithelioma of the inside of the cheek is so much better, under the application of radium, at the end of four months that it looks as if it would be quite cured. And this has apparently been accomplished without inflammation or sloughing or profound ulceration of the disease. I understand that the radium in this case was applied by means of the disc. As this epithelioma was about $1\frac{1}{2}$ in. in diameter and ulcerated all over, when I saw it four months ago, there seems no reason to doubt that small epitheliomata of the tongue may be removed by radium, probably with a better scar than would be left by any

other efficient agent. But, having said this, it must not be forgotten that the removal of the primary disease is only part of the cure of epithelioma. Even the smallest, the youngest, and apparently the most insignificant epithelioma of the tongue is capable of affecting the lymphatic glands, as the cases I have related show. So that, unless radium is discovered to possess a far-reaching influence, spreading from the seat of the primary disease to the associated lymphatic glands, I am afraid that the surgeon must still occupy an important place in the treatment of epithelioma of the tongue.

UNNA'S METHOD OF TREATING ULCERS OF THE LEG.

By GEORGE PERNET, M.D.

WITH reference to the abstract of a German paper on Unna's bandage published in the EPITOME of January 16th, 1909, par. 33, I should like to point out that Dr. Hecker has missed an important point in the mode of application. I have treated a good many varicose ulcers of the leg by Unna's method, especially when I was out-patient assistant to Sir Victor Horsley at University Hospital. At that time I looked up Dr. Unna's original paper on the subject and carried out the method on the lines laid down by him, and I may add with very gratifying results.

In as few words as possible, the following is the *modus operandi*:

The ulcer itself is cleaned up with a 1 in 2,000 solution of mercury perchloride. Iodoform is then dusted or blown on to the floor of the ulcer only. In one instance only of the hospital series first treated (1891-2) by me in this way did I see iodoform dermatitis produced, but that was characteristic and rather severe. Some of the substitutes for iodoform are therefore to be preferred for this and other reasons.

Unna's gelatine paste, liquefied in a hot water bath, is then painted on the parts surrounding, but not on the ulcer itself, well beyond the latter, and wherever there is redness or discoloration of the leg. A good formula is that of the U.C.H. Pharmacopoeia:

Zinc oxide	...	...	10 parts
Gelatine	...	...	15 "
Glycerine	...	...	30 "
Water	...	...	45 "

Fig.: Soak the gelatine in the water for two hours; add the glycerine; apply a gentle heat till dissolved; stir in the zinc oxide to a smooth consistence; allow to cool.

Two or three double-headed 3 in. muslin bandages (in one piece rolled from either end, and not bandages made by stitching the ends of two ordinary bandages together) are next required. Muslin, such as is used for plaster-of-Paris work, answers very well. I now use sterilized bandages of this kind, put up separately. A two-headed bandage is wrung out in warm (sterilized) water, and the middle of the bandage is then placed on the leg opposite the ulcer, the two heads being firmly held one in each hand. The first turn is then made with pressure vigorous enough to reduce the diameter of the limb, the bandage being brought well over the ulcer. This way of employing the two-headed bandage is the crux of the whole matter, and the central idea of the method, and is a very different thing to bandaging from the toes upwards as recommended by Dr. Hecker. The bandage is then taken round the leg, with firm pressure, especially over the actual ulcer, allowing the turns to take one more or less where they list, the two hands being used for this purpose, and the turns being evenly applied, an easy matter, the bandage being wet. Meanwhile the liquefied paste is painted on the bandage as it is wound round the limb, either by the patient or an assistant. Two or three bandages can be used in this way, a few figure-of-eight turns being taken under the foot in order to fix. The result is a splint, which allows patients to go about their work as usual. If there is a great deal of discharge from the ulcer the bandage will require to be changed the next day, but after the first few days the bandage can be left on for several days together.

The method in its principles is really the same as our English one of strapping ulcers (Baynton's), but it is more

* I am not sure whether the glands were removed in another of the cases. Two of the patients were operated on by Mr. D'Arcy Power at St. Bartholomew's Hospital, and I was present at the operations. Mr. Power thinks that he removed the glands of one of these patients (the man who died of nephritis) a few days later. But the notebooks do not contain a record of the operation.