leak, and in some cases the leakage is such that we have not been able to carry out the method. A slender vein can generally be found which answers the purpose. The pressure in the second armlet must be lowered quickly directly the vein has been stroked empty, so that the filling of the vein from below may be observed before it can leak full from above.

In cases of high pressure it is difficult to get patients to endure long enough the somewhat painful feeling of pressure which results from the maintenance of the first armlet at a pressure close to the obliteration pressure. It is necessary to work quickly in these cases, and give a rest between each test.

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, October 10th, 1908. ² *Proc. Roy. Soc.*, lxx, 1902.

TREATMENT OF INOPERABLE CANCER BY HYPOCHLORITES.

By JONATHAN E. A. G. BECKER, M.B., C.M. EDIN.,
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DURING the past three or four years I have, when called upon to deal with cases of inoperable cancer, employed a method of treatment which is entirely novel so far as I am aware. The cases in which I have carried it out thoroughly are not numerous, and at present only the three recorded are of sufficiently old standing and sufficiently verified as regards diagnosis.

CASE I.

A woman employed as a cook in a large block of flats in London. In October, 1901, ovariectomy was performed on her at Guy's Hospital and the right ovary removed. Little relief from her previous symptoms resulted, and she continued to attend as an out-patient, the uterus being curetted on two or three occasions. As she continued to fail in health she was readmitted in November, 1902. On laparotomy a mass was found in the pelvis, suggesting a malignant growth with a secondary deposit in the omentum. No microscopic examination was made, but from the relations of the mass and its appearance it was concluded that it was a case of malignant disease. Consequently the abdomen was closed without further interference, and the patient discharged in February, 1903.

Ten months later, or in December, 1903, the special treatment in question was commenced. By May, 1904, five months later, the patient was so far recovered that she was able to do all her household work and to go out bicycling, riding as far as thirty-five miles in a day. In appearance and feeling she was perfectly well. Nevertheless, the treatment was continued for several months longer. At the date of writing, four years later, this patient is still in good health and earning her living by her own exertions.

CASE II.

A woman who had a radical operation for mammary carcinoma at Guy's Hospital in March, 1907; the diagnosis of cancer was verified by microscopic examination. Two months after she had been discharged, some enlarged glands were noticed on the left side of the neck, and these were removed surgically at the Soho Hospital for Women. Again, two months later, further growth was observed in the same locality, whereon the special treatment was commenced. In two months' time the growth had disappeared, and at the time of writing, eighteen months later, she is in absolutely good health, feeling well, taking active exercise, and pursuing her ordinary occupation—that of a school teacher.

CASE III.

A French gentleman, who, through a bicycle accident, received a blow on the right breast. A tumour formed, and was diagnosed in May, 1904, as a malignant growth. In consequence a radical operation was performed at King's College Hospital in the same month, the growth, on microscopic examination, being found to be a spheroidal celled carcinoma. The patient was seen now and then by his surgeon, and in 1906, though the cicatrix seemed in good order, the conclusion was reached by this surgeon that there was a secondary and inoperable growth in the sternum itself. Subsequently the patient had x rays applied a few times and received some injections of what was probably a culture of *M. neoformans*.

Finally, in November, 1907, he placed himself in the hands of the writer of this note, who commenced the special treatment in question. It was continued until May, 1908, at which date all evidence of new growth had disappeared, and the patient was apparently in perfect health, locally and generally. That is still the position at the date of writing, eight months later.

In describing these cases it has not been thought necessary to enter into finer details of their clinical course, but their more essential features are all duly recorded. It is conceivable, of course, that in Case I the growths seen and deemed by the operator to be malignant and inoperable may have been tuberculous. Such cases do occur, but it

would be a strange coincidence if one followed a previous operation for cystic disease of the ovary. In the other two cases the initial disease was verified microscopically, and, as in the first case, the recurrences were deemed by surgeons holding positions on the senior staff of important London hospitals to be malignant.

I propose to report the conditions of these three patients again a year hence, whatever it may be.

The treatment employed was the injection of a solution of hypochlorites of potassium and sodium. This I prepare by dissolving 5 grams of KOH and 4 grams of NaOH in a litre of distilled water, and passing it through washed chlorine gas. Of this solution, 1½ to 2 c.cm. were injected daily for a varying period, usually under the skin over the deltoid muscle or over the great trochanter, so that the solution might enter the system at a site in the general neighbourhood of the lymphatic glands. The growth itself and the skin over it were carefully avoided. So, too, was the use of alcohol during treatment. I use an ordinary all-glass syringe with a platinum needle (to avoid corrosion), and in making the injections adopt ordinary aseptic precautions. There is a varying amount of local pain, lasting for from two to five minutes. I have not seen any reaction.

Should any medical reader care to try the treatment and desire further details, they are, of course, at his disposition.

THE TREATMENT OF CANCER WITH COCAINE.

By ROBERT MUNN GILCHRIST,
BOLTON, LANCOS.

THE first time I used cocaine in the treatment of cancer was as a local application in a very painful secondary case, the primary growth having been removed a few weeks before by the late Dr. McGill of Leeds. On its recurrence, I saw Dr. McGill along with my patient, and he at once came to the conclusion that further operation was out of the question. This was a very instructive case, as, being on the face, you could watch the progress of the growth under varying forms of treatment.

Before the use of cocaine, from the first indication of a fresh deposit until ulceration occurred was a period of about three days, but after the use of cocaine this period was lengthened to as many weeks, thus showing that cocaine had some influence in retarding the growth.

In July, 1891, discussing with my late friend, Dr. Calderwood, "the Mattei treatment of cancer," I said that the only agent I had ever used having any effect on the growth of abnormal epithelial tissue was cocaine, and having a very suitable case under my care at the time, I determined to try the effect of the internal administration of cocaine.

CASE I.

Mrs. C. was 49, and almost in *articulo mortis*. Extreme anorexia, probably from secondary deposits in stomach and liver in this case of uterine cancer, had brought her into this condition. Having an idiosyncrasy to opiates, whichever way administered, made this case not a very easy one to treat, especially as she was suffering very much pain. I commenced the treatment with cocaine by giving her one-eighth of a grain every three hours, and gradually increasing it to one-quarter of a grain. The growth in this case occupied almost the whole of the vagina, and involved both bladder and rectum. She had excruciating pain, retention of urine, general anasarca with albuminuria, and most alarming attacks of hæmorrhage. The effect of the administration of cocaine was most marked and immediate. The hæmorrhage became less and less, the pain was very much relieved, the anasarca and albuminuria disappeared, sickness stopped, and she again began to take her food with relish.

She continued to improve for six months, when, being much upset by her husband, she had an attack of meningitis, from which she died.

CASE II.

Miss W. consulted me about her breast in May, 1891. I found a growth involving the whole of the left breast, and enlargement and induration of the axillary glands. The skin over the breast was becoming affected, and I advised immediate removal. To this she would not consent. I then commenced treatment by administering cocaine both internally and externally. The pain, which had been the most important factor, became to all intents and purposes a negligible quantity. The skin broke down in many places over the breast, but healed. The growth seemed to remain in a stationary condition, and the glands in the armpit, if anything, became smaller. She continued in

this way without any material change until December, 1892, when she died from an acute attack of phthisis.

CASE III.

Mrs. H., aged 52, came to me in July, 1891, with cancer involving the whole of the uterus. Her chief symptoms were pain and haemorrhage. The general condition of this patient was very bad, as she had suffered for years from a large number of chronic ulcers on the legs. Here I again administered cocaine, with the result that the haemorrhage at once ceased and the pain became a very unimportant factor. She improved very much constitutionally, and was able to walk a mile from home a week before her death, which took place in April, 1892, from obstruction of the bowels. She would not consent to operation.

CASE IV.

N. C., aged 38, came under my care in November, 1891. I found a growth involving the entire lumen of the rectum. He had great pain and difficulty in passing his stools, which act was always accompanied more or less with haemorrhage. He continued under my treatment for about ten months, during which time he gained slightly in weight, and had very little pain. The haemorrhage ceased, and the growth seemed to be stationary, as also to become more regular in outline to the touch. Because I could not promise him a definite cure he placed himself in the hands of a quack. He quickly got worse and died.

CASE V.

Mrs. M., aged 50, had cancer in the left breast. The growth was about the size of a pigeon's egg, and the skin was adherent to it. The nipple was retracted, and the axillary glands hard and enlarged. She commenced taking cocaine in September, 1892, and continued until July, 1893, when I amputated the breast and excised the glands. During the six months she was taking the cocaine the growth seemed sometimes to be a little smaller, sometimes a little larger—in fact, correspondingly as she took the cocaine. I have lost sight of this case.

CASE VI.

Mrs. B., aged 47—a case of uterine cancer—came under my care when in a very advanced state. She was shrunk and shrivelled, and had most marked cachexia. In this case also the haemorrhage ceased, and the pain was very much alleviated. She died after ten months' treatment.

CASE VII.

Mrs. W., aged 43, came to me in April, 1892, with advanced cancer of the left breast. She had very large breasts. The growth involved the entire breast; the skin was affected, and the glandular enlargements in the axilla were very marked. This case improved less than any other in which I have administered cocaine, and she died in October, 1892. The treatment at first seemed to stay the growth; but sloughing commenced, and, if there was any peculiarity, it was the size of the sloughs that kept coming away.

CASE VIII.

Mrs. E., aged 43—another case of advanced uterine cancer—came under my care in August, 1893. Here again the cocaine has controlled the haemorrhage, and there is no other symptom of the growth present besides a sensation of weight. The more cocaine she takes the better she is, and she is performing her household duties.

CASE IX.

Mr. W. This was a case of some malignant disease involving the pyloric end of the stomach. Opiates failed to give any relief to his suffering, so I administered cocaine, from which he had considerable benefit. He died suddenly after three or four months' treatment.

CASE X.

Mrs. B., aged 47, had considerable swelling in the right breast, with enlargement of axillary glands. She had the usual pains. After four months' treatment the enlargements have entirely disappeared, and she is now in her usual health.

CASE XI.

Mrs. C., aged 42, had also swelling in the right breast, with pain and enlargement of axillary glands. After two months' treatment the breast has returned to its normal condition, and she is now in her usual health.

CASE XII.

Mrs. R., aged 37. A similar case to Case XI. Here again the symptoms have disappeared under treatment.

CASE XIII.

Miss H., aged 35, had swelling in the left breast, with pain and enlargement of axillary glands. Under treatment with cocaine all the symptoms have disappeared, and she is now in her usual health. The mother of this patient died some years ago from cancer.

CASE XIV.

Mr. B., aged 50. Seven years ago I removed an epithelioma from his lower lip. Some months ago he consulted me as regards a whitish-looking blister which had come on the site of the cicatrix. I gave him cocaine both internally and externally, and the lip has resumed its normal appearance.

In all these cases the administration was followed by benefit.

1. In every case the general constitutional condition of the patient was very much improved, even if that was only for a time.

2. From the observations I have made in these cases, I consider, so far as the relief of pain is concerned, that cocaine stands unrivalled, for while easing, or altogether taking away pain, we have none of the objectionable conditions which opiates produce.

3. In every case of uterine cancer where haemorrhage was a prominent symptom the administration of cocaine was followed by immediate benefit; either stopping the flooding entirely or leaving only at intervals a show.

As to the *modus operandi* of the drug I offer no opinion. The cases cited show the general improvement in health, the relief of pain, and the power of controlling haemorrhage. Whether it has any power over, or effect on, the embryonic epithelial cell, whereby a malignant is converted into a benign tissue, or whether its action is on the nerve terminals, or whether it is only by its powerful stimulating action generally, that cocaine has any control over the symptoms mentioned I do not know, but I know that patients suffering from cancer bear larger doses of cocaine with impunity than is generally understood, looking as if there was some natural affinity between the one and the other.

If a patient came to me suffering from a growth in which the diagnosis was doubtful, I would administer cocaine, and if there was then no improvement I could almost certainly say the growth was not malignant. So that I consider cocaine also a valuable diagnostic agent.

Reverting again to the cases mentioned, I may say that I cannot trace Nos. 5 and 8; No. 10 died last year from bronchitis, and Nos. 11, 12, 13, and 14 are still living and have not had any recurrence of the disease.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CANCER HOUSE.

It appears to me that the following facts may be of some interest to your readers.

Some short time ago a man came into my consulting room one evening. He had tuberculous glands in his neck, and in trying to elicit a family history he gave me the following remarkable and interesting account.

His family lived on a farm in Glamorganshire. The house is old, and at one time had been of considerable size, and occupied by the agent of the property on which it was built. Latterly this house had been divided into two smaller houses by a partition wall, each house being occupied by a family of farmers, who were not related to one another—the T.'s, my patient's family, on one side, the R.'s on the other.

Mary T., the farmer's wife, suffered from cancer of the stomach, from which she died at the age of 76 in 1882.

Her daughter-in-law, Emma T., lived in a farm near by, and who nursed her in her illness, moved with her family into the house on the old woman's death. She was operated on for cancer of the breast in 1886, which recurred, and from which she died in 1890 at the age of 49.

Her daughter, Edith T., nursed her mother in her last illness, and she in turn developed cancer of the breast, which returned after operation, and she died from the recurrence in 1896 at the age of 32.

Edith T. was nursed in her last illness by Mrs. R., who lived in the other half of the divided house. Mrs. R. died in 1900, aged 68, from cancer of the breast.

Her husband's nephew, David R., came to live at the farm after Mrs. R.'s death, and he died there in 1903, at the age of 32, from cancer of the throat.

We have here a series of 5 fatal cases of cancer under one roof, if not actually in one house, in a period of twenty-one years, and only two of these persons were blood relations—Emma and Edith T., mother and daughter.

It seems there is something more than coincidence here, and that probably there are predisposing, if not determining, factors to be found in the house and its surroundings. The house is built on the side of a stream that courses down the valley. The stream, which is often swollen with floods, is not sluggish, but the subsoil is always saturated with moisture. The valley is thickly wooded, and many trees are affected with arboreal