

Some methods of hypodermic medication in the treatment of inoperable cancer / by John A. Shaw-Mackenzie.

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SOME METHODS OF HYPODERMIC MEDICATION

IN THE TREATMENT OF

INOPERABLE CANCER

BY

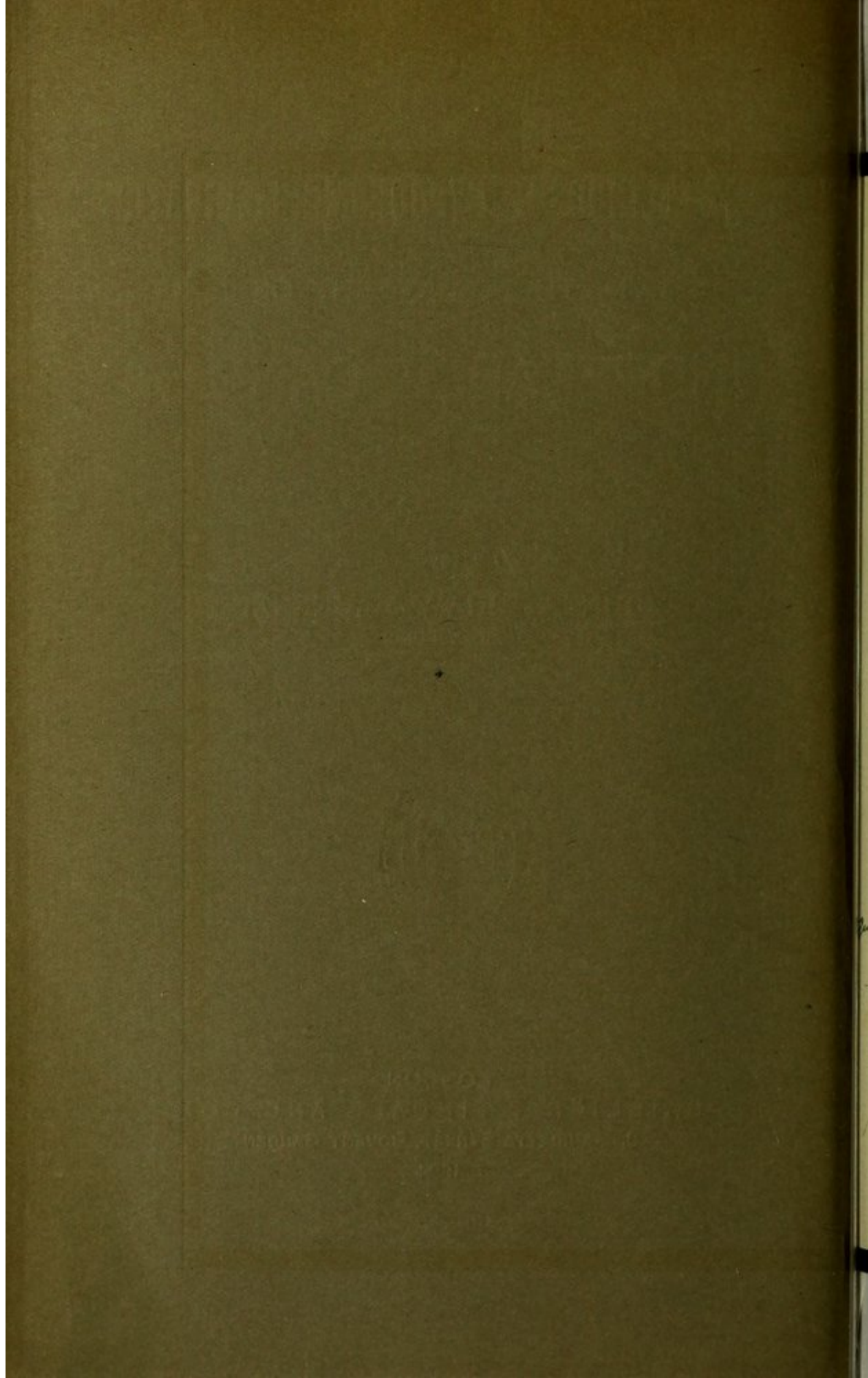
JOHN A. SHAW-MACKENZIE

M.D. LOND.



LONDON
BAILLIÈRE, TINDALL AND COX
8, HENRIETTA STREET, COVENT GARDEN
1904

Price One Shilling net

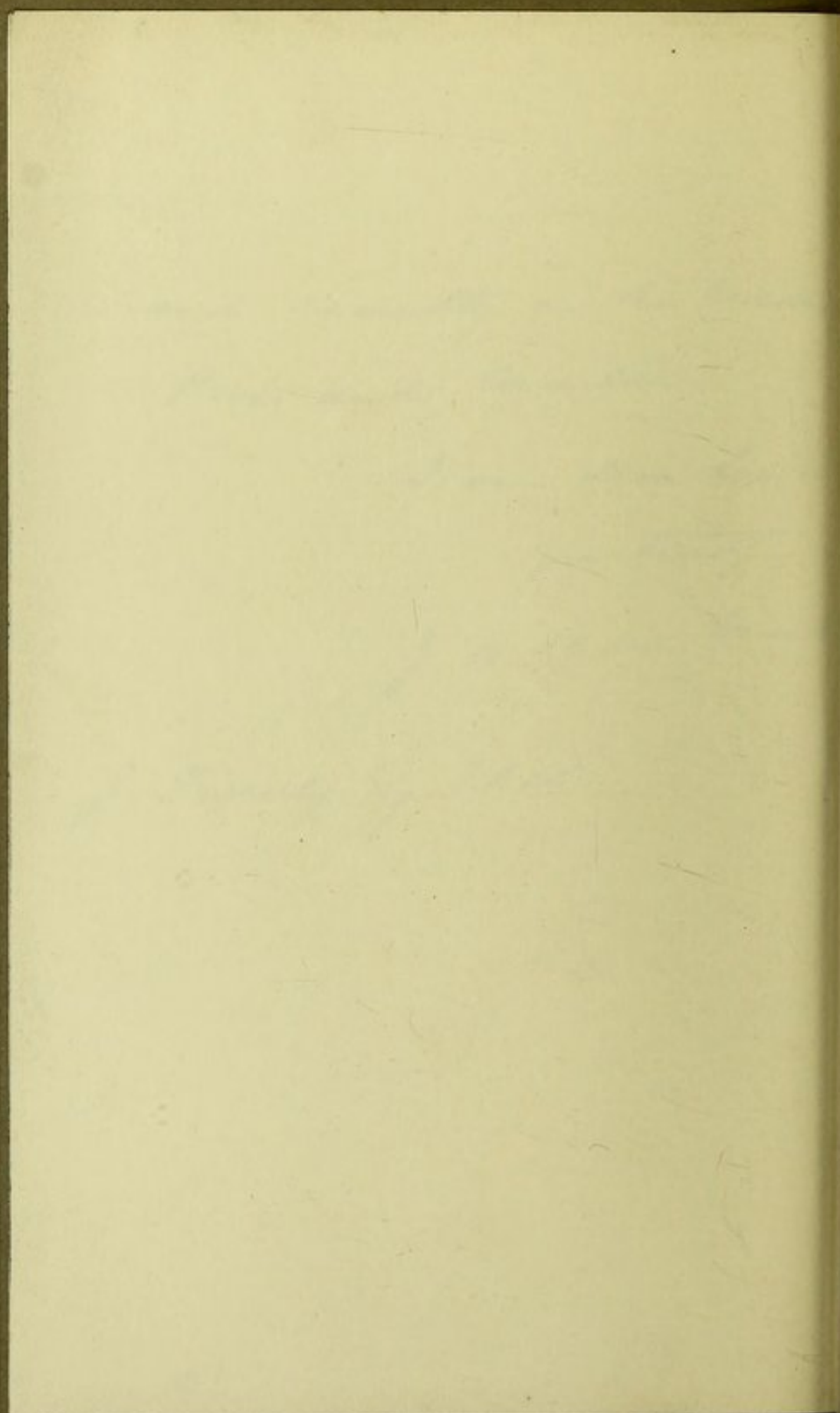


Dec 1st 1904

Dear Sir,

As an old student
of University College Hospital
I hope you will allow
me to respectfully forward
you enclosed pamphlet.

My work on iodipin
in uterine fibroids was ori-
ginally published in The Lancet
1903 and abstracts of
the treatment in inopera-
ble cancer, this year in
The Journal of the Royal
Army Medical Corps



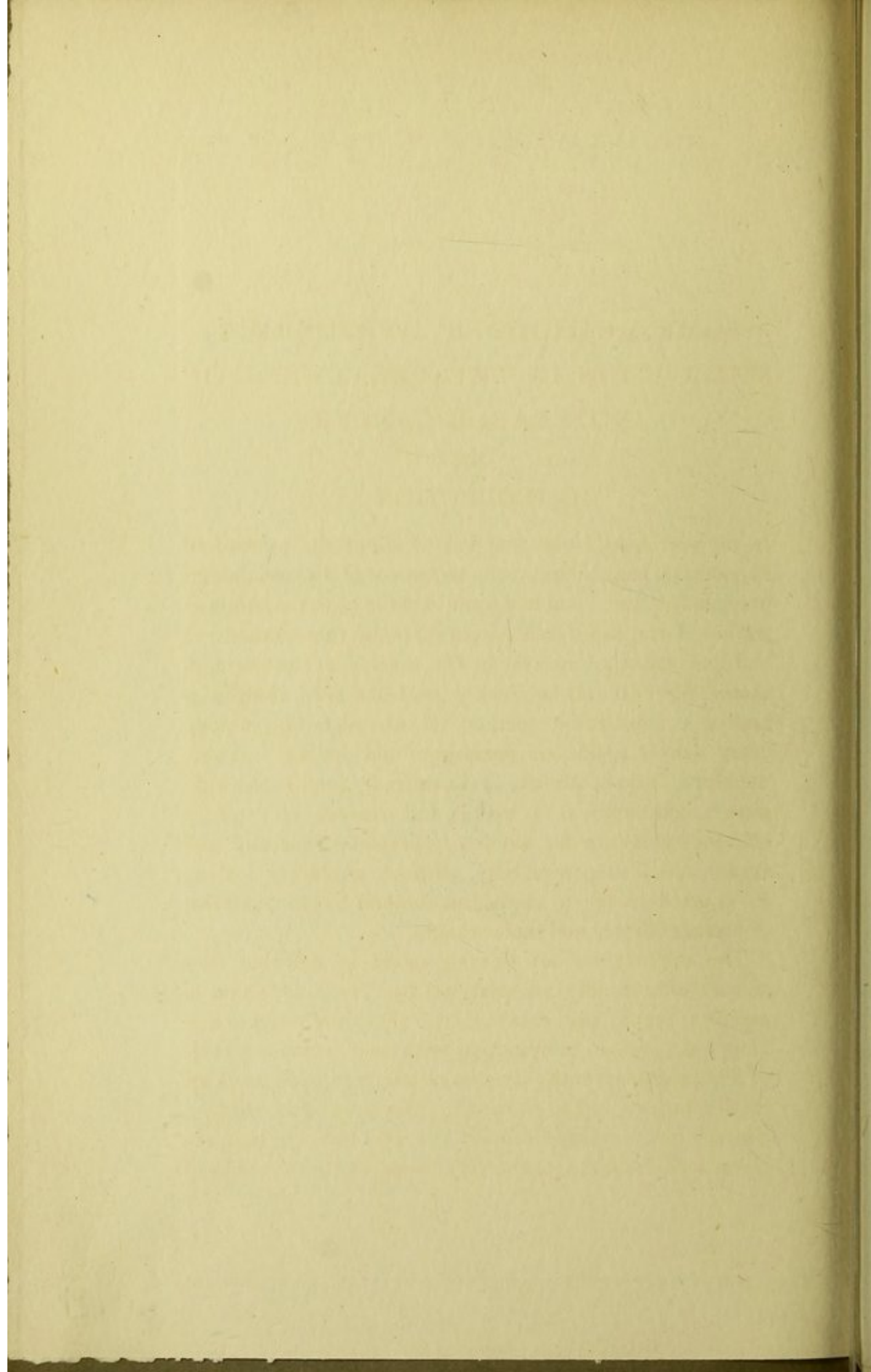
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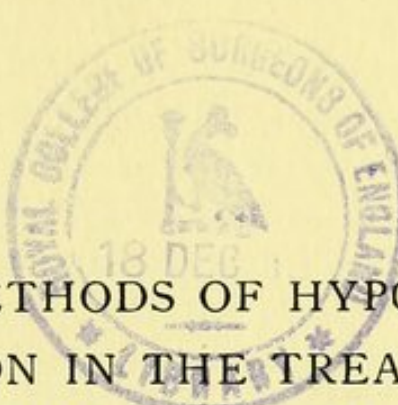
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SOME METHODS OF HYPODERMIC MEDICATION IN THE TREATMENT OF INOPERABLE CANCER

INTRODUCTION

IN the year 1902 I was first led to adopt the method of hypodermic medication in the treatment of disease, though previously to this I had had some experience in the administration of the cacodylate preparations by this method. I had long taken an interest in the medicinal treatment of uterine fibroids, and for some years I had been desirous of finding a substitutive method of administering, among other drugs, iodide of potassium and iodine. When, therefore, Messrs. Merck, of Darmstadt, introduced iodipin—a combination of iodine and sesame oil—as an efficient substitute for iodide of potassium generally, and administered subcutaneously, without producing iodism, it occurred to me to apply this method to the treatment of uterine fibroids and menorrhagia.

The opportunity for treating cases in this way was shortly after kindly afforded me by Dr. John Shaw in patients under his care at the North-West London Hospital; and, in conjunction with him, complete relief of symptoms, in some cases with more or less shrinkage of the tumour, were obtained. No particular local or general inconvenience follows the injections, which are given well into the connective tissue of the buttock, in

doses of 3 to 10 c.c. of the 25 per cent. strength. The treatment is a continuation of the older iodine one, only, as it seems to me, by a more convenient, rapid, and direct method of administration, the drug itself, in the form of the tincture administered by the mouth, having been originally advocated and successfully employed by Dr. Samuel Ashwell in the treatment of fibroid tumours of the uterus, so long ago as the year 1845.

The injections do not confine the patient to bed or the house, nor is there apparently any disagreeable effect. In one case under my care rapid shrinkage at first, and later almost complete disappearance of a large and undoubted uterine fibroid, for which hysterectomy had been a few days before independently recommended, took place under this treatment. This patient at the time mentioned to me that a friend of hers had obtained great benefit while abroad from hypodermic injections of iron, after large quantities of iron mixture had been taken without apparent benefit. The preparation in this case was one of arsenic and iron—both this and various preparations readily obtained here and abroad approximating to that of Dr. Zambeletti, of Milan. Extensive trials of these, with or without strychnine, have since been made by Dr. Shaw and myself, and have proved to be beneficial in certain cases of anæmia, neurasthenia, and malaria. Again, we made trial of various preparations of mercury, and a solution of the benzoate which I obtained from Messrs. Merck has proved satisfactory. Both the iron and arsenic, and also mercury, are injected into the muscular tissue of the gluteus. It is impossible here to enumerate the many cases in which the above hypodermic preparations, as well as others—as, for example, strychnine and spermin—have been singly or alternately employed, but encouraging

results have been obtained in some cases of endometritis, chronic pelvic inflammation in women, rheumatoid and septic arthritis, sciatica, locomotor ataxy, and improvement, in one case, of disseminated sclerosis.

I

HYPODERMIC MEDICATION IN INOPERABLE CANCER

ENCOURAGED by the results of hypodermic medication in the foregoing cases, and by the work of others in the treatment of cancer by hypodermic medication, I was led to adopt this method in cases of inoperable cancer. Towards the end of last year and commencement of this, decided relief—removal of pain and fœtor—with apparent arrest of disease, were obtained in two cases of inoperable cancer under the care of Colonel T. Ligertwood, C.B., M.D., in the Infirmary of the Royal Hospital, Chelsea, as already recorded by Colonel Ligertwood and myself in the July number, 1904, of the *Journal of the Royal Army Medical Corps*. The first case was one of carcinoma of the tongue in an old soldier, which was treated by hypodermic injections of sodium oleate (soap) solution originally recommended by Mr. John Holden Webb, Melbourne. The second case was that of carcinoma of the neck, treated by hypodermic injections of chian turpentine—a new method of treatment so far as we know—a rapid and direct method of administration—the drug itself, administered by the mouth, having been originally introduced by the late Professor Clay, of Birmingham, in the treatment of cancer.

Hypodermic Injections of Chian Turpentine

Aware of disappointments with chian turpentine recorded in the past, its employment in the above case suggested itself from the recollection of the complete recovery in 1891 of

a case of presumed and advanced cancer of the uterus, in which Colonel Ligertwood and I had recommended its internal administration, subsequently to the opinion at the time of an eminent authority (since deceased) of the hopeless nature of the case; while the combination of iodine and sesame oil in iodipin suggested a similar combination of chian turpentine for hypodermic purposes. It may be recollected that twenty-five years ago the late Professor Clay strongly recommended chian turpentine by the mouth in the treatment of cancer, and 'if permanent cure was not obtained, an amount of relief secured to patients which had not been afforded by any other plan.' The treatment was condemned by others and fell into disuse, and yet the results obtained by Professor Clay in certain cases cannot be doubted. Since the publication of the method of hypodermic administration by Colonel Ligertwood and myself, Mr. Augustus Clay, the son of the late Professor Clay, has informed me that he had never heard of chian turpentine being injected subcutaneously, but at the same time he remarks that he can quite understand how very much more trustworthy the treatment may become under this method. Accounting for the difference in the results which followed the internal administration of the drug by his father and others, he suggests that in all probability the explanation was to be found in the fact that the drug was unassimilated, inasmuch as large masses were passed 'undigested' by the rectum. This was noticeable in the pill form of administration, the emulsion giving far better and quicker results. Mr. Clay asserts that he is now using the injections in a case of cancer of the rectum. The patient had previously been taking large doses of morphia, but has had none since the commencement of this treatment, and, so far, relief from pain has been obtained.

Technique.—The injections of chian turpentine are administered deeply into the subcutaneous tissue. Experience has shown that the buttock is a suitable place. Given deeply into the connective tissue they cause little or no inconvenience or pain. The muscular tissue itself must be avoided, as injections into it cause pain and a sense of tension. I prefer the 'all glass' syringe, made by Messrs. Burroughs Wellcome and Co. The special features of this appliance are that it is separable into parts which, with the needle, can be sterilized by boiling first, before use. The method I adopt is to keep a separate needle for each patient. A somewhat stout needle is necessary. An irido-platinum needle is preferable, being not liable to break in the deeper injections into the gluteal region. The same applies to the intramuscular injections of iron, arsenic, and mercury. The site of injection is first sterilized with some antiseptic solution, after which a piece of ice is placed upon the surface, by which local anæsthesia is induced. The former is a simple means of abolishing all pain of insertion of the needle; and though this may seem a minor detail, upon it depends, in many cases, a continuance of hypodermic medication.

Dosage.—Colonel Ligertwood and I found by experience that 5 minims of a 20 per cent. combination of chian turpentine with olive oil, obtained from Messrs. Southall Bros. and Barclay (Birmingham), is the quantity to begin with, increasing by 5 minims on alternate days up to 60 minims. In our first case there was considerable rise of temperature following the third and fourth injections of 15 minims and 20 minims respectively. Some doubt existed as to the cause, inasmuch as in subsequent cases the same has not been noticed when gradually pushed to the full. Messrs. Southall now supply the injections of chian turpentine in small stoppered phials ready

for use, as well as the emulsion for internal administration.

CASE I.—Carcinoma of the neck in an old soldier, aged seventy-three, in the Infirmary of the Royal Hospital, Chelsea, under the care of Colonel Ligertwood. There was a large, hard, fixed mass, ulcerating in places, and bleeding readily over the middle of the right sternomastoid, extending up towards the mastoid process, under the ramus of the jaw and over the trachea in front. The head was forced over to the opposite side, great pain was complained of, and swallowing was becoming difficult; weight 9 stone 7 pounds. It had commenced primarily as a pimple in November, 1903, attributed to rubbing of the coat-collar, and was evidently growing. Medical-history sheet clean. Malaria in India forty years ago. Microscopic examination of a small piece taken from the edge of the ulceration proved it to be epithelioma. On January 25, 1904, 5 minims of a 20 per cent. combination of chian turpentine in olive-oil (sterilized) were injected subcutaneously into the arm, the dose being increased by 5 minims on alternate days till 20 minims were given. The third injection of 15 minims was followed by a rise of temperature to 102° , returning to normal in the morning; while after 20 minims it rose to 103.6° , necessitating reduction of the dose to 5 and 10 minims in future, once or twice a week, followed by a rise of temperature to 100° or thereabouts. Briefly, in this case all pain went from almost the first injection; the extensive redness of the surrounding surface, which reached to above the mastoid in one direction and on to the upper chest in the other, rapidly subsided, leaving a faint, purple discoloration, limited to the immediate neighbourhood of the growth; the ulceration decreased, and the discharge assumed a purulent character, free from all smell; the

head was no longer tilted, and could be moved freely in all directions, the difficulty in swallowing passed away, and at the end of a month the growth had diminished astonishingly in all directions. February 16, weight 9 stone 10 pounds. On May 30 the tumour was about the size of a hen's egg, remaining stationary, but occasioning no inconvenience; slight further shrinkage had continued from week to week, with purulent but inoffensive discharge from the ulcerated surface. The patient was in the convalescent ward, and going out of doors regularly. Weight 9 stone 11 pounds. As I have since heard, he had begun to fail in August, took to his bed, and died; but though there had been some slight hæmorrhage at times, there was no pain, fetor, or extension of growth.

CASE II.—On August 10, 1904, Mr. ——— consulted me. He had been under several eminent surgeons and physicians in town. He was suffering from a rapidly growing pelvic and inoperable tumour, which was first noticed in January last. I found a hard, solid tumour, filling the abdomen almost up to the ensiform cartilage, and the right thigh and leg were enormously distended. There had been already some hæmorrhage from the bladder on several occasions. He was unable to retain solid food. His wife was carrying out X-ray treatment for him in the country; but his appetite had failed, his weakness was great, and the surgeons in town had expressed the opinion that the X-rays had not arrested the growth. I wrote to his medical man in the country, suggesting trial of chian turpentine injections and also of emulsion of the same by the mouth, which he kindly agreed to carry out. August 22: I heard from Mrs. ——— that, so far, the injections had worked a wonderful improvement, that his leg was softer, his appetite better, and that he could retain solids. September 9: I again heard that he was very

much better, that the tumour had receded from the stomach in a really wonderful manner, and that he could eat solids as well as ever and enjoy them. September 10: His medical man wrote to me corroborating the above. September 17: Mr. — came up to town to-day to see me, and the general improvement is very marked. The abdomen is no longer distended, but supple. The tumour has diminished astonishingly, and can be made out at the level of the umbilicus, while the leg is obviously reduced in size. October 8: The improvement is fully maintained. The swelling of the leg has gone down very much, and permits him to get about very well. The tumour is further diminished, and on deep palpation the main mass extends to the level of the umbilicus on the right, and to the left a separate lobe about the size of a small Tangerine orange. So far there can be no doubt of the direct benefit. October 29: There has been no apparent growth—in fact, the mass appears smaller and more separate. The patient is, however, again suffering from loss of appetite, and the bladder is irritable at nights. His bowels are acting freely and disproportionate to the amount of food he is taking. While pressure, therefore, on the bowel appears to have been relieved, the mass appears to be pressing on the bladder from weight alone, the symptoms being relieved by upward support. Since commencement of treatment no further hæmorrhage from the bladder has been noticed. The leg is again more swollen, but he is able to get about. He looks very well, and has put on several pounds in weight, though this may be explained by the œdema of leg. The injections have been reduced to 25 minims, as on two occasions there was some rise of temperature of undetermined origin.

Hypodermic Injections of Sodium Oleate (Soap) Solution

For some years Mr. J. H. Webb, Melbourne, has been successfully treating cases of inoperable cancer by hypodermic injections of soap solution. When this fact came under my notice the first difficulty I had to encounter was that of determining the requisite strength of the solution and dosage. Unable to ascertain that the treatment had been tried by others, I communicated with Mr. Webb. Meanwhile, Colonel Ligertwood and I agreed to commence with 5 minims of a 1 per cent. solution obtained from Messrs. Allen and Hanbury, increasing by 5 minims on alternate days to full doses of 60 minims every fourth day.

Technique.—The injections are given into the subcutaneous tissue. They were given chiefly into the outer surface of the upper part of either arm alternately or of the chest in the neighbourhood of the growth. They were not altogether free from some smarting or pain, which, however, soon passes off, or is obviated by previous injection of eucaine. They appeared to be more painful in the leg and in certain situations which vary individually, and which I have also noticed with other injections. Locally, the effect seems to vary from some tenderness to painful inflammatory areolæ and to lumps without suppuration. The soap solution readily passes through an ordinary fine steel needle, and the same details of syringe antisepsis and local anæsthesia before insertion of needle are followed as previously noted in chian turpentine injections. For convenience, Messrs. Allen and Hanbury have put up for me 1 drachm doses of the sterilized soap solution in small stoppered bottles. These only require to be warmed before use, and the solution poured into the barrel of the syringe.

CASE I.—Carcinoma of the tongue, of apparently seven months' duration, in an old soldier, aged seventy-three. In May, 1903, before admission to the infirmary of the Royal Hospital, Chelsea, under the care of Colonel Ligertwood, he had been recommended operation in hospital, but refused. About the end of November, when first seen, there was great difficulty in opening the mouth, with inability to protrude the tongue, which was much swollen. Ulceration existed over a hard lump of the size of a walnut, projecting from and involving the right posterior third of the tongue. An enlarged gland could be felt under the ramus of the jaw. He complained of severe pain locally and radiating up the right side of the neck and head. Thin liquid nourishment could only be taken with difficulty. Saliva constantly escaped from the angles of the mouth, and the fetor was marked. He was too feeble to leave his bed. Opium and an antiseptic mouth-wash were prescribed December 4, 1903. Five minims of a 1 per cent. solution of soap were injected subcutaneously into the outer and upper part of the right arm, and increased by 5 minims on alternate days to full dose of 60 minims every four days, and later once in ten. Thyroid extract was also commenced, but was shortly omitted on account of severe cardiac disease. December 11: The patient expresses himself as always easier after the injections. For a few days iodide of potassium was given, but it only served to increase the distressing local condition and flow of saliva, and it was left off, there being no apparent indication for it. December 28: The pain has gone from the neck and head, and he is able to take a little minced chicken. All fetor has gone. January 25, 1904: No pain. Able to fairly open the mouth, and protrude the tongue. Takes a little minced beef, and has insisted on being allowed to resume his

pipe. Ulceration exists over a projection now the size of half a filbert on the side of the tongue, the base of which is posteriorly thickened. February 1: Has been up and able to be weighed. Weight 10 stone 6 pounds. Normal weight stated to be 15 stone. February 8: No pain, but the ulcer is sensitive to the touch. All opium has been omitted. February 16: Is up and dressed every day, and has been out for a short walk. Takes fish, minced chicken and beef, diet sparingly, but bread-and-butter pudding freely. Weight 10 stone 8 pounds. March 4: The gland under the jaw, which till now seemed to be smaller and giving no trouble, is again somewhat painful and swollen. March 7: The gland is again reduced. He takes his food well. Weight 10 stone 11 pounds. He looks better, and there is no pain or fetor. March 21: A small patch of ulceration still exists, but no enlargement or thickening of the tongue is appreciable, and the local condition in marked contrast to the usual termination of tongue cancer. Unfortunately, as stated, he was suffering from advanced cardiac and arterial degeneration, which throughout treatment had been a cause of great anxiety, and on this day some œdema of the extremities was noticed. It passed into black gangrene of the left leg and foot, and he rapidly sank without suffering on March 24. Post-mortem inspection of the tongue showed but little difference from the normal; on the other hand, microscopic examination of sections through the small patch of ulceration demonstrated epithelioma.

CASE II.—Mrs. —, aged fifty. Left breast removed in hospital in July, 1903, for rapidly growing scirrhus. Her father died of cancer of the tongue, and two of his sisters died of cancer of the breast. On February 16, 1904, she came to me with a diffused hard, raised, irregular recurrence above the cicatrix, enlarged gland of the size of

a walnut in the posterior triangle; much pain, and the arm somewhat swollen. She was unwilling to undergo any further operation. Injections of soap solution as employed in Case I. were commenced, Colonel Ligertwood kindly assisting me with these. March 3: The pain has ceased, and both the enlarged gland and growth seem smaller. March 10: The gland is now the size of a pea, the growth softer, and split up into separate nodules. March 17: No pain, and the gland can barely be made out. March 24: There is some return of pain in the growth, and the gland is a little more evident. The menstrual period has appeared after two months' interval, and is profuse. March 31: The gland again can only be made out with difficulty, and no pain is complained of. April 7: Several of the nodules have disappeared, leaving an apparently quiescent adherent surface. In the temporary difficulty of obtaining fresh purified ox-gall, which in the meantime Mr. Webb had recommended, as I shall subsequently refer to, 5-grain tabloids of the same were added to the treatment. She continued to be doing well, and the injections were omitted for a fortnight. When on June 2 the period again appeared, the tissues became thickened and hard and two small fresh nodules appeared, which increased to the size of peas, bled a little, and threatened to break down. A fresh small cervical gland could also be felt. On continuation of the injections every other day the sores scabbed over, and the patient was apparently again progressing satisfactorily. In April and July Dr. A. W. Higgs, of Chelsea, her medical attendant, wrote to me, fully testifying as to her condition and improvement. July 16: Patient complained of pain in the right breast, and I was disappointed to find a movable, rather large lump, which before had not been present. Injections were commenced in its immediate neighbourhood

and the chest-front, every other day, and $\frac{1}{2}$ drachm doses of fresh purified ox-gall prescribed. July 23: The growth was very much reduced in size, and there was no complaint of pain. The injections have been continued, but the ox-gall has been obliged to be reduced on account of the diarrhœa caused. September 15: The injections into the breast-tissue surrounding the growth have been followed by pain and tender swellings. They have been resumed again into the pectoral region and upper arm, since which all pain has ceased, and the lump is apparently reduced and quiescent. The left chest remains sound, the scabs having fallen off. October 3: The patient remains the same. There is some fulness and pain at times in the left supraclavicular region, but her condition is giving no cause for anxiety. October 27: The same. Keratin coated pills have been substituted for the mixture or tabloids.

NOTE.—The temporary reactivity of the disease noticed at the two menstrual periods, with intervening subsidence, is noteworthy, and the removal of ovarian irritation may possibly be a contributing factor in the improvement effected by removal of the ovaries in certain cases of recurrent cancer of the breast. The growth in the right breast coincident with retrocession of the process in the other is also noteworthy. I have employed soap injections in two other cases, one that of carcinoma of the rectum in a patient of advanced years, with cardiac disease and hemiplegia. Colotomy had been performed nine months previously. As a result of the injections, rectal pain was removed, discharge checked, and fetor kept down, but death occurred—the digestive powers having been almost lost. In this case an enlarged prostate necessitated constant catheterism, and complete ability to pass water followed previous injections of iodipin. In the other case—carcinoma of the mouth—soap injections were pushed to a

2 per cent. strength, which, however, produced painful lumps, lasting several days, and this contributed to the cessation of this method of treatment. Chian turpentine injections were also tried, and, I thought at the time, with some improvement and reduction of fetor, but I lost sight of the patient, and though the injections were continued subsequently for a time, I believe they too were also abandoned.

II

MR. J. H. WEBB'S METHOD OF TREATMENT AND THEORY (ABSTRACTS)

As a result of a long correspondence with Mr. Webb, of Melbourne, I was furnished with full details of the technique of his method of treatment, together with the notes of many cases in which he had obtained good results, notably in recurrent breast cancer after operation. He thinks he has effected much improvement in his method, and states that while the soap injections seem to succeed very well alone in certain cases, he now recommends in others the internal administration of fresh purified ox-gall in preference to his original recommendation of the same hypodermically.

His letters seem to me to be of so much interest and importance that I have arranged the following abstracts thereof, and I would direct attention to them in accordance with his kind permission and sole wish that due trial may be made of his treatment.

'Soap Solution.—The superfatted soap of Messrs. Allen and Hanbury, or, for that matter, common yellow bar soap. A 1 per cent. solution is a trifle too thick, but will suffice. The solution being standardized, corresponds to

0·8 per cent. Inject drachm doses anywhere, but as near to the tumour in sound tissue as possible, every four days at first or thereabouts. Subsequently daily doses in smaller amount can be used with caution in the continuance of the treatment.

‘*Syringe*.—A Parke-Davis, aseptic. The cylinder should hold just a drachm, and a fine needle is necessary.

‘*Eucaine Solution*.—Three per cent. Insert the needle first, then inject $\frac{1}{2}$ drachm or less of eucaine. Do not withdraw the needle, but wait a couple of minutes, and then throw in the soap solution. Massage the part a little after withdrawing the needle, so as to disperse the fluid.’

‘*Animal Gum*.’ *Sodium Tauro—or Glycocholate. Purified Ox-Gall.*

‘*Preparation*.—Evaporate a gallon or less of bovine bile to dryness over charcoal (granulated animal charcoal). Throw into methylated spirit. Boil for twenty minutes; then filter; boil again in fresh charcoal. If all the colouring has disappeared, filter again and concentrate till it is as thick as Devonshire cream. This made into a mixture with some tragacanth and a little orange syrup is not very disagreeable to take. Begin with $\frac{1}{2}$ drachm doses three times a day, and increase till it causes diarrhœa or looseness of the bowels.’ Subsequently once or twice a day is sufficient dosage.

‘The term “gum” is short, and expresses its chief physical peculiarity. It does not matter what you call it. One thing is positive—that it has a powerful influence on cancer when it can be taken in sufficient doses. But here is a difficulty: it does not answer alone, neither does the soap after a time. The latter seems to succeed very well

by itself at first, and in primary cancer injections of it alone may be enough, but in chronic or recurrent carcinoma it seems to me that its effects wear off after a time, but they can be revived by the gum. If you wish to see the action of soap best, choose a smallish rodent or a small epithelioma, and inject just a few drops under the ulcer. It is very painful, and eucaine or a general anæsthetic may be necessary. The scab will at once fix and remain on ten or fifteen days, and sometimes fall off dry, leaving a perfectly healed surface. It may return, and you will have to use the gum also. A word more as regards the soap. I do not care how large or how offensive a cancerous ulcer may be, I assert that the soap solution alone in a few days—sometimes as little as two—will remove all unpleasantness and nearly all discharge. I have done this in old people and advanced cases over and over again. It is no use giving gum in old people with extensive ulceration. You cannot prolong their life, but if you can remove all the horrors of cancer—pain, discharge, fetor—you effect very much, and this I affirm it will always do.

‘If you wish to see the effects of soap on cancer as an external application, just make a paste by boiling down some preparation, such as Maclinton’s or Allen and Hanbury’s toilet soap, and lard it over a large foul epithelioma, and you will be surprised at its action—how it will clean the sore, leaving an apparently healthy surface, but the disease will continue.’

Nature of the Disease.—‘I hold the first lesion in carcinoma is crystallization of cholesterine from the living cell, and that may be brought about in two ways: (1) By local injury or by a local chemical change in cholesterine, as is effected by soot or paraffin cancer. In rodent and in non-infiltrating epithelioma, this is all. The process ends here,

and these cases will recover completely, and remain well, with the soap solution. But when you come to the infiltrating carcinoma, behind the local crystallization there lies another process. (2) Some change in the liver-secretion, one which is probably a loss or mechanical separation of the soap, and that to my mind constitutes the difference between the two forms of malignancy, and in a measure accounts for the variability and capriciousness of cancer. A person receives a blow: this separates the cholesterine from the cell; inject with soap alone and it will recover, at least for a time, sometimes for always. A change—not a loss, or patients with chronic biliary fistulæ would at once become cancerous—takes place; a diminution of soap in the bile-product allows the same process—viz., crystallization—to take place, separation from the cell occurs, and cell proliferation starts. Here soap alone is ineffectual; the fault is in the liver secretion. Take, for instance, a case of breast cancer with fetor. Inject with a saturated solution of cholesterine dissolved in soap, and it will have no more effect on the disease than so much water. It will turn the urine red, that is all. Now inject soap solution alone, and the fetor will at once disappear. Therefore the sud does very well in local cancers, like some operations; but, on the other hand, when the disease is a general one, due to loss of soap or change in the biliary secretion, you must employ gum, and operation is useless. I do not know how you can distinguish between the two at first.

‘It is curious to watch cancer healing. It is not the cell element which gives the trouble, but that fibrous induration which imparts the strong hardness to the tumour. In many cases this never disappears, but glands seem to harden and go. I have recovered eight breast cases in all. I lost one recurrent of the breast, but I never

could get her to take the gum by the mouth. However, I relieved her enormously, for I entirely got rid of all smell and discharge. Nothing short of saving her life could have been better. And I lost another in which I think the thyroid played a prominent part. Another case I cannot get to take the gum, and in consequence I am not very hopeful about her. She says it makes her back ache and prevents her from sleeping, and I cannot get her to take it. Gum has a peculiar action on soap. Make a soap solution, and stand it aside. Now make another, add a little gum to it, and let it rest for a few days. The soap solution remains soap solution, but the mixture has separated out with something else, which I have not determined. I do not wish to infer that the doses I have given are correct. There is some proportion, a balance between the gum and soap, which I have not exactly made out. The action of these two substances is like the disease itself—surpassingly capricious. The last case of epithelioma I treated I kept in check for two years, at times very nearly healing it up. It never quite went away, though I thought it had. I then gave gum by the mouth, and the healing process commenced at once, and now the whole thing has gone (*vide* Case VIII.)

‘In severe cases soap will not do alone, neither will the gum. Whether it is that the gum loses its soap in passing through the stomach or not, I cannot say. In milder cases the soap injections by themselves seem to answer very well, but when the disease has advanced, it appears to me that the gum is essential. It requires a little management, but the treatment to my mind is very effectual when the disease is uncomplicated. I am strongly of opinion, when these substances can be used as I have suggested, uncomplicated cancer is a treatable affection; but there must be no albuminuria, diabetes, jaundice, or

broken-down metastasis; and in intestinal cancer involving the lumen, operation should precede treatment, for I am afraid cicatricial contraction results, and healing must increase rather than remove the constriction. If the lesion is only mesenteric, it does not matter. Where the fibrous hyperplasia is great, I use a little (10 grains at the outside) of thyroid extract, as I hold that the only influence that gland has is on the fibrous tissue, and its use is passing away very much.'

The following notes of some cases forwarded by Mr. Webb illustrate the results of his treatment :

CASE I.—Recurrent breast cancer ; quite recovered. This is a woman age thirty-five. First seen December 23, 1901. I removed the primary tumour, February 23, 1902, so that at present date, December 25, 1903, over two years have elapsed since the first appearance of the disease. I had the nodule examined by the leading pathologist here, who pronounced it at once to be malignant. It recurred in the shape of a skin-nodule, one of those circular-cupped deposits. I did not give it time to break down, and from that time till within three months ago I kept the woman in excellent health ; still I felt that I was not administering sufficient animal gum. I used to use the ethereal preparation. I then changed to the alcoholic (*vide* Preparation), and gave it by the mouth with manifest effects.

CASE II.—Cancer of the tongue. Soap solution. The patient had a metastasis which had invaded and opened the œsophagus, so that from mechanical causes alone recovery was impossible, but the action of the remedy was again marked. All throat irritation and expectoration went away in a few days, and when death came the man died in comparative comfort.

CASE III.—Cancer of breast. Sent to me February 23,

1901. Breast removed five months previously and everything cleared away. Recurrence well marked. Scar adherent and raised. Ulceration above cicatrix. Scattered nodules. Losing 2 or 3 pounds in weight a fortnight. There was no doubt here about the rapid recurrence and cancerous nature of this woman's breast. She is to-day alive, fat and as well as can be. Not a sign to be seen; not a nodule in her chest.

CASE IV.—Woman, age forty-five, consulted me with large adherent breast, involving all the gland; nodules all over the front of the chest, some on the point of breaking down, or, rather, flattening and ulcerating. Patient weak and emaciated. August 25, 1901, I removed a large part of the breast. Under the soap treatment, as in the above, she completely recovered, and to-day is without a sign of cancer and in perfect health. Unfortunately, in these two cases the breast was not examined microscopically. In my own case it was surely not necessary, and in the hurry of the moment I forgot to bring away the part removed.

CASE V.—Woman aged fifty. A tumour had been detected in the breast about Christmas, 1901. Four months later a portion of breast was removed in hospital. The pathologist to the University pronounced it to be undoubtedly malignant. At the end of June she came to me with a tumour, the size of a mandarin orange, in the breast. Soap injections were administered, and to-day, eighteen months after, her health is perfect, but there is a cicatrix in her breast as large as a walnut.

CASE VI.—Cancer, 'cui-rass.' Right breast. Thick ichthyotic scab. Arm much swollen, so much so that blisters, or, rather, blebs formed. Albuminuria two years. Axillary and supraclavicular glands much swollen. This woman with injections of soap and gum completely

recovered from the cancer, save for a little swelling of the arm. Up to this, I thought when once the vein was occluded the thrombosis would prevent the circulation ever being re-established, but this is not correct. She all but regained the use of her arm, and could raise it and touch the back of her head. The breast entirely healed and the glands disappeared completely, as far as I could feel, and she became a useful member in her family. Then the albuminuria increased. I never could find any cancer cells, but plenty of casts in her urine. Dropsy set in, and she died one day in a convulsion.

CASE VII.—Abdominal carcinoma. This woman was really almost *in extremis*; at all events, I did not think when I first saw her that she could live more than a few days; and yet some six months afterwards she walked into my room as healthy-looking a woman as one could wish to see. The disease returned, and, I think, must by now have proved fatal; but her recovery for the time was simply marvellous, and this with soap alone.

CASE VIII.—Epithelioma of nose. Typical sore about the size of an elongated shilling. Examined microscopically, and pronounced to be undoubtedly malignant. March, 1902: Soap injections. Healed rapidly, and remained well till August. Injected again, and healed, remaining well till January, 1903. Recurred again, and 'gum' injections given. I have kept it under, or, rather, his own doctor did up to about a month ago. At one time it was healed for five months, when it recurred faintly. It never quite went away; there was always some itching left, and then it would scale again. 'But you cannot continue this kind of thing always,' as he said the last time I saw him; 'I have had ninety-two injections.' December 12, 1903: The local soap and gum injections were omitted, and 'gum' given by the mouth. December 25,

1903, the patient writes: 'Continual disappointment has made me rather sceptical, but I cannot shut my eyes to the immense improvement that has taken place since I began taking the gum by the mouth. The part is assuming a healthier aspect. The scab is steadily shrinking; the inflammation practically gone, the edge of the scab looking healthy, and the swelling has all but disappeared. If the improvement continues, I see no reason for doubting an ultimate cure.' March 9, 1904, again he writes: 'I think I can safely assume that the epithelioma which has worried me for the last twenty-seven months is gone for good. I would have written before, but my unhappy experience has made me very sceptical of an absolute cure. But the conditions now are so distinctly different from any previous conditions of apparent cure that I have now little fear of a recurrence. True, more than half of the cartilage of my right nostril has disappeared, but what is left looks absolutely sound and healthy, with the exception of a slight scar tissue, which is becoming smaller and beautifully less every day. I have had no local injection of soap and "animal gum" for eighty-nine days. I have taken no gum by the mouth for fourteen days. The improvement was marked and continuous from the first dose of "gum" by the mouth, on December 12 last, until the present moment of writing, a period of ninety days. I am still watching developments very carefully, and although I am inclined to think that I need not take any more "gum," I shall resume taking it again in a day or two for precaution.' March 15, 1904: I saw the patient to-day. The ulceration has made a little half-moon on the ala of the nose, and there is a scar, but otherwise this epithelioma has completely disappeared. September 11, 1904: Patient has been to town on business, and made a friendly call. He continues perfectly well.

CASE IX.—In July, 1902, a woman, aged sixty-eight, came into my room, showing an enormous cancer of breast *en cuirass*, which had broken down in several places—in fact, the nipple had gone, leaving a hole large enough to hold a small tomato. The whole mass covered a surface larger than the crown of my hat. I treated it with soap and gum injections for about twelve months, when it all but healed, the patient continuing all the time in excellent health. When I first saw her she weighed 10 stone 4 pounds; maximum weight, 15 stone. February 16, 1904: Weight, 14 stone 10 pounds. She then went back a bit. A suspicious nodule appeared, which, to my intense disappointment, broke down into a nasty ulcer, the size of half a crown, and her arm swelled a great deal. Accordingly, I gave gum by the mouth, which for three months acted fairly well, the ulceration not spreading. The arm commenced to swell, and I recognised the fact that the latter drug was not holding the case as it should. I used injections of soap again in the manner I have described, but without much improvement. I next reverted to daily injections of soap, administered by a Parke-Davis aseptic syringe. April 25, 1904: This has answered perfectly. I could not wish for anything better. Everything has absolutely healed, and she is in most robust health and so stout as to be unwieldy. I found that I had been giving too much gum, and that twice a day was quite enough. By the Parke-Davis syringe the injections are almost painless, the needle is so fine and strong; and it does not require such a large dose at a time if you inject daily, while in this way the soap solution does not leave those painful nodules you write about. The swelling has practically gone from the arm in this way. If the limb is raised for half an hour or so, all the œdema goes; but if it is left to hang down, some swelling returns, so I presume

the œdema is solely due to loss of elasticity on the part of the tissues, and not to venous obstruction. July 27: In Case XI., as will be detailed, all the nodules have gone; but, as a rule, these fibrous deposits occasion great trouble, for they will not disappear, nor will they ulcerate, and are too large to remove with the knife. In this patient, save for her age, she would be in very good health but for one of these masses. The annoying thing is that it will not heal, and yet is so soft that I could scrape it away with my thumb-nail, and I should do so but I am afraid of the hæmorrhage that might occur, as it is extremely vascular. August 29: Is doing well. Really, if you could see her you would never doubt that there is virtue in soap. The arm goes down sometimes almost entirely, and then it swells up again in a very curious way. I dare not touch her fibrous knobs, they bleed so readily, or otherwise I would scrape them all off. They are quite soft. September 11: The swelling has gone from the arm. It went in three or four days. One limb is now no larger than the other. She cannot yet use her hand, for, naturally, the fingers are stiff. I can make no impression on the soft fibrosity that covers the whole of the left breast, but on firm pressure on a nodule a quantity of gelatinous matter wells up. There is no discharge, but occasionally the lumps exude an odourless serum. Really, it is curious to see an immense carcinomatous mass, as this is, or rather was, entirely free from smell or pain. Her health is perfect. She has had this disease now over four years, but has been only under my treatment for two. I am sure when she first came to me no one would have given her three months to live, if a third of that time.

CASE X.—Woman, aged thirty-five, whose right breast had been removed for carcinoma. The operation, performed at a very early stage, had been a complete one.

At the time there were no glands or any dissemination, but the underlying fascia and part of the pectoral muscle were removed. Nine months afterwards a recurrence took place in the scar. She then came under my charge. I injected her with soap, and the nodule disappeared and all then remained well for four months, when a further recurrence took place. I then used gum and soap mixed, and for a second time was successful in removing all traces of the disease as far as I could see. Six months ago the malady appeared again, and spread rather rapidly. I found that neither the soap injections nor gum injections were of much avail. Then three months ago I treated her in the same way as in the previous case. Toward the end of last January I recognised that the gum was making her very ill, so much so that she took to her bed complaining of severe pain in her back and limbs, sleeplessness, and occasional nose-bleeding. I reduced the dose to once a day, and injected soap daily, using eucaine also. April 25, 1904: The breast has now healed except one spot, the size of a threepenny-piece, and there is some healthy scabbing left. There is one supraclavicular gland and a small chain of nodules by the side, which seem to me to be disappearing. She is regaining her health, is able to be up, though not walking about. Her appetite is very good, and on the whole I think she is in fair way to recovery. June 14: Progressing, as far as the cancer is concerned, wonderfully well, but the other day, having been caught in the rain, developed pneumonia. This is most unfortunate. The glands in the neck have entirely gone except one, and even that is barely perceptible. July 18: The ulceration has entirely healed, but the fibrosities seem to be irritable. They stand out in raised plaques. She recovered from the pneumonia, but has fallen into a neurasthenic condition, and is very thin. July 27: The disease has left some

warty patches, which have a tendency to exude like an eczema. August 29: Not doing very well. A few years ago she had phthisis, but seemed to have recovered, though the apex on the right side is depressed, and her pneumonia does not quite clear up. The carcinoma, so far as the active disease is concerned, is satisfactory. There are some fibrous nodules left, and there were a few warty plaques. Two or three I touched with nitric acid, and, as soon as the superficial eschar disappeared, they quickly healed.

CASE XI.—Recurrent carcinoma of the breast, with hepatic metastasis. Previously operated upon by Mr. Henry O'Hara, Senior Surgeon to the Alfred Hospital, Melbourne. She returned last January, and passed again under the care of Mr. O'Hara. At this time her chest was most extensively nodulated, and her abdomen distended with ascites, for which Mr. O'Hara tapped her, and also removed one of the lumps for re-examination. She then came under my care, at the beginning of February, 1904, with far-advanced recurrence. I suppose there were quite a hundred nodules visible. The glands in and below the axilla and above the clavicle stood out like small currant grapes; besides which the abdomen, though she had only been tapped a week, was fairly distended. She was so weak as to be hardly able to sit up, and very pallid. She managed to return home, and I taught her sister how to inject her. Three weeks after this her husband wrote to me that he thought she was a little stronger, but that the ascites had become almost insupportable. I travelled to the country to see her, and tapped her, and finding that the injections were not being managed very well, I succeeded in getting her to town again, and have since been treating her. I have had to draw off the abdominal fluid altogether some six times. The last time the water was somewhat less, but the abdomen swelled again for

about a week, and then the ascites commenced to go away of its own accord. July 18, 1904: To-day every nodule has disappeared, and the stitch marks, every one of which had been plainly visible, can now no longer be seen. She is thin, but not so much as to attract attention, and she walks about, to all appearance as if there was nothing the matter with her. I must confess I have never before seen an ascites disappear of its own accord. I have known it not to return after tapping in one cirrhotic case, but the man died three months afterwards. But in the above case the abdomen emptied itself apparently by the kidneys, as the patient passed enormous quantities of water. In any case, not a vestige of any tumour or hardness can be detected.

July 19, 1904. Note by Mr. O'Hara: 'I have just seen Mrs. —, and must congratulate you upon your success. Twelve months ago she came to me with a far-advanced carcinoma of the right breast, with secondary involvement of her axillary glands. I advised the removal of the breast according to Watson Cheyne's method, and thoroughly cleared out all the involved tissue. Just within twelve months she came back to me with multiple carcinomata in the stitch-holes and hepatic metastasis, which had caused ascites as extensive as it could be. I tapped the abdomen, and removed one of the glands for bacteriological examination. As there was no doubt as to the recurrence, I advised her to return home and prepare for the worst. I saw her again about a week ago. She informed me that Mr. Webb had been treating her for six months. Her improvement is marvellous. The nodules have all disappeared, and she has made an excellent recovery. The bacteriological examinations were made for me by the hospital pathologist, Dr. J. F. Mac-kiddie.' August 16: I discharged Mrs. — yesterday, and she has gone home, as far as I can see, perfectly well.

She had been away for a fortnight to a farm-house some miles from Melbourne, and returned wonderfully improved. In this case I used the Parke-Davis syringe, injecting never more than $\frac{1}{2}$ drachm at a time, generally only 15 minims, and she took by the mouth 20 to 30 minims of the purified ox-gall three times a day. August 29: Reported satisfactory. Whether she will be able to maintain her present condition is one thing; what is certain is that the treatment I suggest has had a most beneficial effect on her. This is incontestable, and there was not a shadow of a doubt as to the nature of her malady.

This is not quite the best case I have had, for I think the one whose breast I removed myself was perhaps further advanced. It will be now three years this month since I first saw her, and so far there is no return or anything approaching to it, and she is quite a strong and robust woman (*vide* Case IV.).

CASE XII. *Rodent Ulcer*, September 11, 1904.—The patient was an old man and tabetic. The ulcer was situated at the inner canthus, about the size of a florin. It had been excised, then grafted, excised again, X-rayed, subjected to radium and electricity, and yet the sore was virulent and spreading. I injected him every other day for three weeks, when the scab fell off, leaving a perfectly healthy surface.

To recapitulate, in small rodents inject a few drops of soap solution under the base of the sore. It is very painful, and a general anæsthetic or eucaine is necessary.

In epitheliomata and general cancer it is necessary to do more: (1) 'Gum' by the mouth, 20 drops three times a day. Continue till diarrhœa occurs, or pains in the limbs are complained of. (2) Inject—anywhere, but as near to the tumour in sound tissue as possible—daily

not more than 30 minims of a 0·8 per cent. solution of soap at one time. Rub the part slightly afterwards to disperse the injection. A nurse can give the injection, as it gives no trouble, and it is not so painful as morphia injections. (3) Lather the ulceration with soap and leave the sud on. Do not apply any antiseptic. Cover with cotton-wool.

‘Whether the theory on which this treatment is based is exactly right is a matter of opinion, but there is no question that the remedies suggested have an enormous influence for good in carcinoma. By all means use my letters, or anything I have written, in any way you like, and, if there is any question, I shall be only too pleased to answer it. There is nothing private, or anything I desire to keep to myself. My sole wish is that the treatment should have a fair trial. Personally I have not a shadow of doubt as to its efficacy; I have done it so often.’

III

SUMMARY

FROM the experience I have gained so far, I am satisfied that the treatment is worthy of trial. The effects observed are diminution and apparent arrest of growth, removal of pain, fetor, and pressure symptoms, followed by some restoration to normal nutrition, as shown in the improvement in the general health of the patient. So far these remarks apply to chian turpentine. With regard to Mr. Webb's treatment, of which a full description is afforded in these pages, I am able to state that my experience so far with it has been attended with similar results; and the apparent arrest of growth and the removal of some of the worst features—pain and fetor—confirm results in

similar cases originally claimed by him for his method of treatment. In the recurrent breast cancer under my care since February last there is no doubt in my mind as to the influence of this treatment, while the so far apparent recovery of a case of recurrent breast cancer with liver metastasis and ascites, noted by Mr. Webb, and independently testified to by Mr. O'Hara, speaks for itself.

In neither case is it possible to assert what the precise action is of chian turpentine on the one hand or of soap on the other. With regard to the former, the direct removal of associated inflammation is noteworthy, and in two cases marked leucocytosis has been noted following this treatment. Soap is, as Mr. Webb holds, a solvent of cholesterine. So is oil of turpentine. So also is acetone. This latter, I submit, at once suggests the further questions, viz., Are diabetics resistant to cancer? Are the alleged results claimed for molasses treatment in cancer, consequent on the artificial production of acetonuria, or the fatty acids, and suggestive of a sugar diet, or similar lines of treatment? Whatever the explanation of chian turpentine, or whether Mr. Webb is right or wrong in his suggestive 'cholesterine' and change in bile theory, in neither case could it have any influence on the gratifying results which so far have been gained. Despite the fact that an extended trial is necessary in order to arrive at a definite conclusion as to the value of these methods of treatment, I am nevertheless personally satisfied that the results justify trial in all cases of inoperable disease; and the urgency of inoperable cancer has prompted me to publish these results, in order that no time may be lost in enabling others to put the treatment to a test.