operation, and partly upon the extent of disintegrated tissue which may, perhaps, remain behind. Under normal circumstances, the wound takes three or four weeks to heal when dressed with iodoform gauze, the cavity filling up with granulation tissue. With a superficial abscess, leaving a shallow cavity in the bone, I consider it advisable at once to bring together the edges of the incision, leaving, however, a small space below for the passage of a thin strip of iodoform gauze. If no suppuration should take place, the lower opening may be allowed to close up after a few days, providing the healing process goes on in a normal manner. With more deeply situated abscesses, its duration may be shortened by the adoption of Gruber's recommendation to insert a suture at a later period.

I wish, in conclusion, to point out the simplicity of the operation, a knowledge of which is of the greatest importance for the surgeon, especially in country practice, where, if danger threatens, immediate interference becomes necessary.

Need for Compulsory Instruction in Otology.

I cannot refrain also from expressing how desirable in my opinion it is that aural surgery should be made an obligatory subject of examination for the student, in order that this branch of medicine should become the common property of all practitioners.

FOUR CASES OF MYXŒDEMA TREATED BY INJECTIONS OF THYROID EXTRACT.

By G. E. HALE, M.B., B.C. CANTAB.,
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HAVING had the opportunity of treating four cases of myxœdema with injections of thyroid extract, in the manner recommended by Dr. George Murray,¹ it seemed that a record of them, at a time when the treatment has been recently under discussion, might be of some value.

CASE I. Advanced Myxœdema (15 years' standing) : Marked Improvement under Treatment.—Mrs. C. B., aged 48, had been a confirmed sufferer for about fifteen years, and on a previous occasion an in-patient at St. George's Hospital, but no treatment had produced any alleviation of her symptoms. In 1889 she became too weak to leave her room, and had not done so for three years previously to the present admission.

On January 5th, when she became an in-patient for the second time, she was in an extremely advanced stage of the disease. Her physical strength was at such a low ebb that she could hardly walk alone; the senses were blunted, and all movements slowed to a remarkable degree. There was no dropsy. Perspiration had been absent for some time. She had not menstruated for ten years.

She was at first kept in bed, and the treatment was commenced on January 9th, the injections (m xxv) being made weekly into the back. When she got up, she at once resumed the classical habit of gravitating to the fireside. These little journeys at first could only be performed with assistance, and she complained occasionally of a feeling of faintness, not occurring particularly after the injections. By the end of January she could walk about slowly without help, and announced that she felt decidedly better. She was then troubled by œdema of the legs, which continued to appear and subside occasionally during the whole of February. By the end of that month there was a marked improvement in her speech, perspiration became more free, and even profuse after each injection, while she evinced increased vivacity by quarrelling with a fellow-patient about a trifling difference of opinion. Early in March she began to sew, and she thought that her hair was beginning to grow. She regained strength slowly but surely up to the time of her leaving the hospital on March 14th. During her stay the temperature was taken night and morning. It was at first markedly subnormal, but rose very rapidly after the treatment was begun, and then with one trifling exception never varied much from the normal line. Observations unfortunately were not made on the daily quantity of urine passed with regard to diuresis being set up, but when questioned subsequently about this point, she was certain that she had passed more than usual. Since March 14th the patient has come up to the hospital from time to time, and has been injected on each visit. At first she felt weak, was troubled with œdema of the legs and profuse perspiration, and was unable to walk 300 yards to the nearest omnibus, being obliged to take a cab. By April 21st, however, she was much brighter and stronger; she walked as far as the omnibus for the first time, and had ceased to be troubled with swelling of the legs; her aspect was clearer, and had lost much of the heavy look characteristic of the disease; and a profuse crop of new hair was noticed for the first time in parts of the head which had previously been nearly bald. By May 11th she was able to do all her own washing and dusting, and had foreworn the delights of the fireside. By June 1st she had succeeded in scrubbing the floor for the first time for fifteen years; her new hair was still growing in length, her speech had become fairly brisk, but was still below the normal standard. Her strength improved, and she showed signs of a degree of mental acumen and alacrity of movement which had for years been foreign to her nature. The temperature was taken on each visit, and showed a marked fall following the ex-

change of the comforts of the hospital ward for a far from luxurious home, but it subsequently rose nearly to the normal line.

From June 1st a long interval elapsed before she made her reappearance at the hospital; and at her next visit on August 31st it was obvious that there was a slight deterioration in her condition; her face was duller and slightly puffy, and her bodily strength less than before. She was still able, however, to do most of her household work.

The case shows that a great change was brought about, and this presumably by the treatment. She was at the time of her admission in such a state of physical prostration that one cannot but think that her feeble spark of life would have soon become extinguished, had not some means been found to fan it into fresh vigour; and inasmuch as no decided improvement had taken place during her previous stay in the hospital, one is justified in attributing this to the injections rather than to the nursing and comforts of the ward. As a proof of her changed aspect, it may be mentioned that, whereas she had in January been more than once sent up to the Examination Hall for the purposes of the Conjoint Board examination, the examiners thought that she was not in April a sufficiently marked case. No unpleasant symptoms followed any of the injections in this case. I am indebted to Dr. Whipham for permission to publish these notes.

CASE II. Myxœdema in Early Stage : Great Improvement.—Mrs. R., aged 46, had first noticed symptoms of the disease early in 1890. She was admitted into the hospital in January, 1891, when she stated that she had altered so much in face that her friends failed to recognise her. The question of thyroid transplantation was considered and negatived. There was no change in her condition during her stay. Her hair was then beginning to fall off. This patient was not admitted into the hospital for treatment, but attended weekly as an out-patient to have the injections performed. She was, at the commencement of the treatment on April 5th, a well-marked case, whose only peculiarity was that she was subject to profuse perspirations.

After the first injection (m xxv) she had much giddiness and headache for twenty-four hours. By May 15th she felt stronger in the legs, and could use her hands better; and by May 30th there was also distinct improvement noticeable in her aspect; she found that she was able to work better, and that she no longer felt languid and tired, or suffered from aching in her legs as formerly, while her speech was quicker and less nasal in tone. After the injection on that day (made at one spot in the back) she said that she, to a great extent, lost the use of her hands for two days. She was injected on June 14th, but after that an interval of four weeks elapsed, and on July 11th the temperature, which had previously risen from subnormal to normal, had fallen to 97°. She had by this time began to feel the want of the injections, and complained of her hands feeling "woolly," but her gain in strength was evinced by her ability to wash blankets for two days, a feat which before the commencement of the treatment was quite beyond her powers. On July 20th the temperature had once more reached normal. She mentioned again the weakness and pain in the arms following the injection for some hours. Her improvement in speech and in vigour had been sufficiently plain to call for much comment from her fellow servants and her mistress. On August 15th she was still improving although no injection had been given since July 20th. There were numerous new black hairs visible about 1½ inch long, among the old grey hair. She had not noticed any increase in the quantity of urine during the treatment. Although much stronger, she did not think that she was as strong as before the onset of the disease, but volunteered the statement that she was becoming more like a photograph of herself taken at that time.

CASE III. Myxœdema of Seven Years' Duration : Marked Improvement.—Mrs. M. B., aged 54, had been a sufferer from myxœdema for seven years, and was once a patient in St. George's Hospital for a few days, but had never derived any permanent benefit from medical treatment. At the time of the commencement of the treatment she was a very well marked case, having much œdema of the face and legs, chilliness, red nose, red patches on either cheek, and her speech so greatly affected as to be unintelligible to strangers, while her weakness incapacitated her from fulfilling her household duties. Her menopause took place in 1887.

The first injection was given on March 16th, and she attended weekly as an out-patient for their repetition. After the first few injections she was troubled for some hours with sensations of faintness and nausea. By April 12th the œdema had almost disappeared, and she noticed that her movements were sharper. No further unpleasant symptoms were complained of as following the injections till May 24th, the injection on that day being followed by pain and swelling at the seat of puncture for nearly a week. Improvement in all respects was slowly taking place during this time. After the injection on May 31st she had frequent fainting fits, while after that on June 7th, which was performed very slowly, she felt "queer" and unable to raise her arms. Since that date she has had the injections less frequently—about one every three weeks. On these occasions mxxv were not all injected at one spot, but one-half of the dose injected on either side of the back, and no unpleasant symptoms have followed any of them. On August 16th she stated that she felt wonderfully well, as strong as before the onset of the disease; that she could now kneel, scrub, shake up beds, and do all her washing; that the services of an interpreter were no longer needed in her shopping; that, though her hands still felt "woolly," she could sew better and thread a needle without putting on her spectacles; and that she seemed to be growing younger instead of older. No new hair was noticeable, but she thought that her old hair was growing longer. She was also sure that since the employment of injections she had passed more water than before, but the fact of her having attended as an out-patient has precluded any confirmation of this statement. Her aspect at this time is still of the kind diagnostic of the malady, but to a far slighter degree than at the commencement of the treatment. The temperature, formerly below 96°, reached the normal at the end of May, and has rarely fallen

¹ BRITISH MEDICAL JOURNAL, October 10th, 1891.

more than one degree on any subsequent occasion. I am indebted to Dr. Ewart for leave to publish this case.

CASE IV. *Mycodema in Early Stage: Slight Improvement.*—A. N., female, aged 27, had, when admitted as an in-patient in February, shown symptoms of the disease for a year and a-half, but did not present a very characteristic appearance. The treatment was begun early in March, and injections of mxxv were made weekly for three months. The injection on May 30th was followed by pain and swelling at the seat of puncture, and that on June 4th by an abscess, which healed kindly after incision. She then had no treatment for seven weeks. In July, August, and September she underwent another course of injections at the Atkinson Morley Convalescent Hospital. The result may be briefly summarised as follows: No improvement in strength or in appearance has taken place, and she still feels as cold as before, but her speech has become brisker, and her fingers more nimble in the use of the needle, while menstruation has reappeared regularly. According to the patient's account diuresis took place during the treatment, but the phenomenon was not confirmed by observation.

It will thus be seen that improvement—decided in the first three cases, slight in the fourth—followed the adoption of the treatment. The cases have not been long enough under observation to discuss the permanency of the improvement, but at present it seems as if a period of more than three or four weeks' abstention from the injections was sufficient to produce a certain amount of deterioration. In the first and fourth cases the red blood corpuscles were counted before and after the commencement of the treatment, but no appreciable difference was found in the estimations. It is unfortunate that the diuretic properties of the remedy were not known by me in time to permit of the urine being measured daily in the two cases treated as in-patients, but it will have been noticed that three of the four patients asserted that their urine was unusually profuse during the administration of the injections.

The unpleasant symptoms following the injections may be summarised as (1) inflammation which may terminate in abscess, (2) giddiness and headache, (3) faintness, (4) loss of power in the upper extremities. The best method of obviating these has yet to be elucidated; in the above cases no unpleasant symptoms have occurred if the injection has been made at two spots instead of one, but the employment of this method has not been sufficiently tested even in the above cases to more than suggest its further trial. Dr. Murray² now recommends that the extract should be sterilised by the pressure of liquefied carbonic acid gas at 40 atmospheres, whereas that used in the above cases was rendered aseptic by the addition of a minute quantity of carbolic acid (about 1 in 600). It will be seen that two of the above patients had been sufferers from the disease for some years, and the fact that both have been greatly relieved tends to disprove Dr. Michell Clarke's theory³ that the injection treatment must be adopted at a very early stage of the disease to produce any good effects.

The thyroid extract was obtained throughout from Brady and Martin, of Newcastle.

Beyond these few comments the cases speak for themselves, and will help to prove, if proof be necessary, the efficacy of the treatment recommended by Dr. Murray before the British Medical Association.

CASE OF DYSENTERY WITH AMCEBA COLI IN THE STOOLS.

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THE subject of amœbic dysentery has of late been much discussed, and has received a fresh stimulus from the prolonged and comprehensive investigations carried out by Drs. Councilman and Lafeur, of Baltimore.¹ The following case, so far as I am aware, is the first of its kind noted in England in which the amœba coli was detected in the stools.

A. H., aged 27, formerly a soldier, was admitted to Charing Cross Hospital, under the care of Dr. Green, on February 6th, 1892, suffering from chronic dysentery. His past history may be thus briefly summarised. In August, 1886, being then in India, he suffered from ague; two months later, for the first time, he passed bloody and slimy motions. He was but little

benefited by treatment. He was stationed from June, 1888, to June, 1889, in Burmah, where the quality of the drinking water was highly unsatisfactory. Here he had an exacerbation of his trouble, but improved under treatment at the military hospital, so that he was able to resume military duty and serve with the Black Mountain Expedition, but he had frequent relapses, chiefly induced by his alcoholic bouts. He was invalided home in September, 1890, since which time his dysenteric trouble has varied in intensity according as he dieted himself and abstained from alcohol.

On coming under observation he complained of tenderness over the liver, which was enlarged, its surface being smooth and regular. The abdomen was sensitive to pressure, especially along the course of the colon. The spleen could not be felt; the thoracic organs were healthy; the tongue was quite clean and shining, typically a "tropical tongue;" the urine, which was repeatedly tested, was always found acid in reaction, of specific gravity from 1010 to 1015, and never contained albumen, sugar, or albumoses, nor did it present any special microscopical characters. The blood was carefully examined, and showed a slight deficiency in the number of red blood discs, and a corresponding decrease of hæmoglobin. The motions were generally preceded by colicky pains, and were very variable in character, frequency, and quantity. They were usually mucoid, very loose, with a varying amount of feculence, and contained blood, the quantity of which might be large, or merely a streak. At times they looked like mucoid exudation tinged with blood, or slimy, with a sickly odour, or else they presented the appearance and consistence of thin gruel, with here and there a few scattered masses of gelatinoid exudation; they were alkaline in reaction.

The motions were submitted to microscopical examination in the following manner: A little of the motion was taken from the warm bed-pan into which it had been passed and was placed on a warm glass slide placed on a "warm stage;" it was then examined with a $\frac{1}{4}$ -inch objective. After a careful search amœbæ coli were detected, generally in the gelatinous masses already referred to. They varied in number and somewhat in size—usually being about four or five times the diameter of a blood corpuscle, and exhibited their characteristic movements in all degrees of activity. Their outline was faint and indistinct. At times there was a well-marked progressive movement, but there might only be a simple thrusting forth and retraction of blunt pseudopodia. When it appeared more or less circular in outline, by carefully observing a focussed amœba, its stages of quiescence, pseudopodial protrusion, or rapid change of position or of shape could easily be noted, as also the division of the amœba into ectosarc and endosarc, the pseudopodia being at their first protrusion an entirely homogeneous ectosarc, and remaining so until what looked like a sudden rupture of the boundary line of the granular endosarc allowed this to pour into it, and thus effect a change of position. In order to recognise the amœba, it is most important that it should be actively moving, and therefore the temperature of the warm stage must be attended to. Cold has a paralysing effect on the amœbæ, and when passive they are readily overlooked. The activity of the amœbæ is readily made out by watching the varied substances taken up by its protoplasm—granular matter, red blood corpuscles, organisms, etc.

As a human parasite the amœba coli was originally detected by Lambi, but the first satisfactory investigations concerning the amœba were carried out by Lösch. According to Kartulis, of Alexandria, who in 1883 recorded the results of his examination of 150 bodies of persons who died of dysentery in Egypt, the amœba coli is present in all cases of true dysentery, as also in dysenteric abscess of the liver; and so far his results have been confirmed in America, Greece, and Russia. In this connection I have the permission of Dr. Patrick Manson to state that he has detected this parasite in the stools of two patients suffering from dysentery acquired in India, but that he has failed to find it in the pus of three cases of liver abscess in which he made careful search.

I desire to express my best thanks to Dr. Green for kindly permitting me to publish this case.

MEDICAL MAGISTRATE.—The Lord Chancellor has appointed H. Dove King, M.D., B.Sc., one of the magistrates for the borough of Sudbury, Suffolk.

² BRITISH MEDICAL JOURNAL, August 27th, 1892.

³ *Ibid.*

¹ Johns Hopkins Hospital Reports, vol. ii, Nos. 7, 8, 9, 1891.