

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, January 27, 1896.

President, Dr. JAMES HENDRIE LLOYD, in the chair.

The first paper of the evening was by Dr. EDWARD N. BRUSH, of Sheppard Asylum, Md., on

SOME CLINICAL EXPERIENCE WITH THYROID EXTRACT IN THE TREATMENT OF IN- SANITY.

Dr. Brush in his paper referred to the statement made by Dr. Clouston, Medical Superintendent of the Royal Edinburgh Asylum, in the annual report of that institution for 1892, concerning the use of the thyroid in myxœdema and subsequently in cases of myxœdematous insanity, and its first application in this condition by Dr. Macpherson, a recent member of the staff of the Royal Edinburgh Asylum; and to the statement of Dr. Clouston, that hereafter myxœdematous insanity would, he trusted, "not again appear in our tables," as in the future it would be treated and cured in its early stages. Dr. Brush then discusses the various investigations which had been made concerning the functions of the thyroid, from the experiments of Shiff, 1859, down to those of recent date, and to the impossibility, in view of our limited knowledge, of exactly defining the functions of this gland; he said, however, that from experiments carefully worked out in the laboratory, and by clinical observation, the use of the thyroid gland in myxœdema, cretinism and certain forms of insanity was based upon scientific, physiological and rational therapeutical principles, and had nothing in common with the empirical use of animal extracts so-called, employed apparently, upon the principle that "every part

strengthens a part." In the treatment of myxœdema, and subsequently in the treatment of cretinism and insanity, attempts have been made to supplement the functions of atrophied glands, or of glands improperly or deficiently performing these functions, and the treatment of myxœdema and myxœdematous insanity and cretinism appears to have been conducted upon the theory that the thyroid administered either in extract or in substance could supply something which was lacking to complete normal physiological function. Dr. Brush then referred to the observations which had been made by all who had been associated with the insane, that their mental states were influenced by intercurrent bodily disease, and that sometimes recovery followed attacks of disease characterized by febrile action, and stated that the early use of the thyroid and treatment of forms of insanity not associated with myxœdematous appears to have been based upon observations made in the use of thyroid in other conditions, showing that a mild febrile reaction follow the employment of the gland. It was to induce this febrile reaction, Dr. Brush said, that first suggested the employment of the thyroid in non-myxœdematous cases of insanity.

Dr. Brush then reported six cases in which he had employed the thyroid gland for various conditions of mental disturbance. Case I. was a woman, age 51, who had been over two and one-half years under care, and some five years insane, when the thyroid was first employed. This case had been characterized by delusions of doubt and fear, especially by fear of contamination, and while the mental condition remained in many respects as impaired as before treatment, the patient was able, in many ways, to do things which she had before treatment been unable, because of her delusions, to perform, and had better control over most of the ideas of contamination which harassed her.

Case II. had been over a year under treatment when the thyroid was employed: she was a case of chronic delusional insanity, violent, untidy, destructive, with rough skin and scanty hair. She rapidly improved under the administration of the thyroid continued at varying intervals for three months. The gain in weight in this patient from February 13, 1895, until the 10th of August of the same year, was nearly forty-four pounds. This patient had not wholly recovered from the influence of some of her delusions, but was able to go home

at the time last mentioned, and has been able to remain at home ever since in quiet and comfort. Before the thyroid was employed, her case had been looked upon as hopeless, and the friends of the patient had been requested to remove her.

Case III. was a mild case of simple melancholia of several months' duration, with some slight enlargement of the thyroid gland. This patient was first more depressed, this was at first, loss of weight and diminution of red corpuscles of the hemoglobin with an increase in white corpuscles. At the time of the reading of the paper the patient was convalescent.

Case IV. was a woman with attacks of recurrent maniacal excitement, manifested in 1872, 1883, and 1894. The last attack had been very prolonged and very violent; and when the patient in November last was put upon the use of the thyroid, she was noisy, turbulent, destructive and untidy. On the 15th of November the first dose of the thyroid was administered, exactly one month from date the patient was among convalescent patients, quiet, lady-like, but somewhat depressed. In this case there was considerable loss of weight following the use of thyroid. In the first part of its employment the patient's condition was so maniacal that it was impossible to make a blood count or to take the temperature. There was, however, some evident elevation of temperature, flushed face, free perspiration and slight nausea. At the time of the presentation of paper this patient's condition had continued to improve, and she was practically convalescent.

The two remaining cases were of chronic melancholia in men in which no improvement was manifest.

In the second case there was not only a marked gain in weight, apparently from the very beginning, although for the first ten days it was impossible to take the patient's weight, but there was a remarkable change in the skin and hair, there was very free desquamation, and an abundant and rapid growth of hair on the scalp, which had been previously very short, scanty and harsh. The new hair was dark in color and soft and abundant.

Dr. Brush concluded by stating that he was inclined to endorse the views of Dr. Bruce as expressed in the *Journal of Mental Science*, that the thyroid undoubtedly produced a more or less feverish condition, the action and reaction to which is of considerable benefit to the

patient, that it is a direct cerebral stimulant, that there is a strong probability that at some periods of life the administration of thyroid supplies some substance necessary to the bodily economy.

DISCUSSION.

Dr. FRANCIS X. DERCUM.—This subject presents itself to my mind in two ways. In the first place, it seems to me that a drug which increases blood pressure, which increases vascular tension, which increases the pulse-rate, and is a powerful febrifacient, is a drug which very likely will modify chronic pathological changes, especially slight changes such as those upon which insanity often depends. Another possibility is that through its effects upon the circulation, it may have a distinct stimulating effect upon the various excretories. I think that in one of Dr. Brush's cases, a distinct increase of the secretion of the skin was noticed. It would be of interest to measure the urine in these cases. The drug may act as a stimulant, and indirectly by favoring the excretion of various toxic substances upon which the insanities probably depend.

Our experience is entirely too recent to enable us to form any positive conclusions, but I think that such contributions as that of Dr. Brush, are of exceedingly great interest.

Dr. A. R. MOULTON.—In studying the literature in regard to the use of the thyroid in various cases, I have gone over much the same ground as Dr. Brush has done and will not take up time with a delineation of my research. I would say that I have been much impressed in my reading and conversation with those who have used thyroid extract, with the fact that there seems to be little unanimity of opinion with regard to its effect in any disorders outside of myxœdema. While one enthusiast may strongly advocate its use in melancholia and states of stupor, another observer thinks that it has no use except in myxœdema and in a few affections of the skin. It has been used to advantage in syphilis, not in conjunction with mercury and iodide of potassium, chiefly I believe in those cases that have resultant skin lesions.

I did not hear Dr. Brush quote the cases of Dr. Charles K. Clarke, of Kingston, Ontario. Dr. Clarke has used the thyroid to a considerable extent and has reported the results of his treatment in five cases. Three of the pa-

tients were cases of chronic dementia, one was a case of chronic melancholia, and one a case of puerperal mania, or rather was in a stuporous state following puerperal mania. One case of dementia recovered in three weeks and had a relapse in one week after the drug was discontinued. In another case of dementia the patient was worse physically and no better mentally for treatment, recovery was complete in ten weeks and the patient remained well. A third case of dementia was rational in two and a half weeks, and well in three weeks. I do not find any account of the subsequent history. A case of delusional melancholia was completely changed in two and a half months, when the patient seemed to be recovering.

The case of stupor following puerperal mania was much improved in less than three months and was able to go home and resume her household duties, though not completely restored. These are very remarkable and surprising results.

Dr. George R. Murray, of New Castle-on-Tyne, says that a relapse may be expected in myxœdema in about one hundred days after the discontinuance of the drug. It would seem, however, that in insanity, if relapse is going to occur, it will do so much more quickly.

In England there seems to be a disposition to give up the use of the thyroid in most of the skin diseases, and it is being confined chiefly to the treatment of myxœdema.

Sir Hugh Brevor has reported the successful use of thyroid, in five-grain doses, continued ten weeks, in universal alopecia; but Mackenzie, in commenting on Sir Hugh's case, says he has used the remedy in this disorder without any beneficial effects.

He alludes to the fact that patients with this usually incurable disease, sometimes get well independently of treatment. He has seen two such results, and is cautious against an erroneous conclusion when a remedy is tried.

When I note the wonderful changes that have been reported from the use of thyroid extract in insanity, I can but remember the fact that in many forms of insanity, if you do almost anything unusual, the patient will improve for a time; and when Dr. Brush spoke of the case of disorderly mania which became pleasant and agreeable under the use of thyroid extract, I recalled the case of an old gentleman some years ago, who insisted upon spitting on his doctor and using him very

roughly, but who got into a much better state under the use of tobacco. I have seen epileptics improve very much after the introduction of a seton, and their convulsions are usually lessened when the bromides are replaced by cod liver oil. We have, of course, all seen temporary improvement, and even recovery, follow an intercurrent disease, and it was partly due to that fact that Clarke was induced to experiment with the use of thyroid.

I am loath to give much credence to some of the statements of the wonderful results following the use of this remedy, when I know that very simple means will bring about decided changes in mental disease. To-day, being aware of the fact that nearly every gentleman who has used the thyroid in mental disease, as well as in myxœdema, has spoken of the increase of the pulse, I made experiments with distilled water on a number of patients, and much to my surprise found that three minutes after the injection, the pulse was increased on an average, twenty-five beats, falling back to the normal in six minutes, and in some to considerably below normal. The case which seemed most wonderful to me, was one in which there was an intermittent pulse, seventy-five to the minute. After the injection of twenty minims of water, the intermissions were entirely corrected, the pulse beating sixty per minute. Six minutes later it was sixty-six. An hour later, the pulse was still beating regularly. It seems to me that we may put too much reliance on the remedy that we may be using, and give it too much credit. At the same time I think that such investigations, a report of which we have heard to-night, are of the greatest value, and I approve of them most heartily.

My personal experience with thyroid extract has not been an extensive one. I am giving it now to a patient with agitated melancholia. He has been taking the remedy for about a month. There is no increase in the pulse, the temperature has not been affected, and none of the symptoms have appeared that have been mentioned by nearly all writers; indeed, I cannot see that he has been in any way affected whatever.

Dr. WILLIAM OSLER, of Baltimore.—This subject is one of exceptional interest. Whatever may be the function of the internal secretion of the thyroid, one very important work that it has to do, is to stimulate brain metabolism, for certainly the absence of that function is characteristic of all cases of myxœdema. Whether they

have profound mental symptoms or not, there is an extraordinary cerebral apathy. The cases of myxœdema that have come under my care, have not had insanity, but they have all had profound apathy. The change in the physical condition; the loss in weight, the extraordinary change in the nutrition of the skin and the nutrition of the hair under the use of thyroid extract has not been so striking as the change in the mental condition. The patients have become bright and intelligent and have been able to resume their social duties. It does seem to me that we must regard the thyroid extract as containing a most potent cerebral stimulant which does alter in some way the metabolism of the nerve centres and stimulates them in a most extraordinary manner.

Dr. CHARLES K. MILLS.—I have not had much experience with the use of the thyroid in insanity, but I should like to refer to one experience in the past year. More than a year ago a patient came to me from the west suffering from a disease which has been described by Dr. Dercum as *adiposia dolorosis*. She had paroxysms in which her arms and legs became much swollen generally, and in spots, with great pain along the nerve trunk, and in the legs below the knees. She was unable to walk. She also had a peculiar mental condition, whether due to the suffering or as a part of the disease itself, might be a question. She was emotional, very much depressed, hysterical, and suffered much from insanity. After a week or two, I put her on thyroid extract in five grain doses, increasing to ten. This caused nausea and vomiting and one or two febrile attacks, and finally I decided on a small dose, two to five grains, which she continued to use. During the year she has been most of the time on this treatment, and has made a most remarkable improvement. The paroxysms have almost entirely stopped. There has been a general decrease in body weight, a decrease in the general morbid swellings, and almost entire disappearance of the knotty swellings and the painful conditions. Her mental condition is also much improved. I think that the case is worthy of record in this connection as a special case.

Dr. EDWARD N. BRUSH.—In regard to the point made by Dr. Moulton, I have stated that none of these patients knew that anything unusual was being done. The extract was administered not by injection but by the mouth. In the paper I dwelt upon the fact that we must bear in mind that any unusual physiological perturbation in

insane patients is apt to produce change in the condition.

I agree with Dr. Osler that the thyroid has a distinct stimulating effect upon the higher nerve centres. In talking of it I have compared the effect to that of cocaine, except that it is more lasting.

With regard to the excretion of urine. The amount of urine is decidedly increased in some of the cases. In two cases now under observation, we are making daily measurements, and there is an increase in the urine and there is said to be an increase in the nitrogen. There is also a stimulation of the blood-making function. At first there is a decrease in the number of corpuscles, but then they increase very rapidly.

Dr. WILLIAM OSLER, of Baltimore, read notes on

- (1) PERIPHERAL NEURITIS FOLLOWING SUN-STROKE.
- (2) UNUSUAL TYPES OF PARAESTHETIC MERMALGIA.
- (3) LABYRINTHINE VERTIGO AND OCULAR DEFECTS.

DISCUSSION.

Dr. S. WEIR MITCHELL.—As to the last paper of Dr. Osler, I am under the belief that I was the first to call the attention of the general profession to the existence of vertigo in connection with ocular disturbance, whether muscular or of accommodation. I think that this was in 1872. I recall one case which parallels the one reported by Dr. Osler. The patient, a well known manufacturer, having gone the rounds of the neurologists, was referred to me. I found that he was suffering from intense vertigo of a peculiar type. It came on when he first went out of the house in the morning. As soon as he got out of the door, he would stumble down the steps and along the pavement for some distance. He always pitched to the left. I told him that I thought that it was an affair of the eyes. He said that two or three others had told him the same thing, and that he had had glasses applied. I referred him to Dr. Thomson, who applied proper glasses, and he became a new man. He never had any discomfort after the new glasses were applied.

In regard to the question of muscular hyperæsthesia. We all know that there is a temporary condition which arises from excessive exertion, when the muscles become sore to use and sore to handle. Sometimes this condition becomes permanent. The mechanism of tissue, change to repair appears to be interfered with. We met with many such cases during the war. A good many notes of these were taken by Dr. Moorehouse and myself. There were men who after long and hard marching, day after day, underfed and overworked, got into a condition something like permanent muscular fatigue, with a certain amount of general feebleness, making them quite incompetent. A good many of these cases finally got into the hospital, and exhibited a con-

dition, which at that time, was to me novel. It continued for weeks and months, and was only cured by rest, good food and tonics. It usually got very slowly well. In hysteria, in women I have seen cases where every motion of the body gave rise to pain, and every muscle of the body was apparently as painful as are the muscles in certain cases of neuritis. These cases commonly can be cured by massage and rest.

As to the very interesting cases of meralgia, I have just seen such a case in a neighboring city. Some years ago the patient, a lady, after skating walked home in a strong wind. Following this there was a swelling of the thigh, which was so great, and accompanied by so much heat, that it was considered an abscess. Finally, the swelling passed away, leaving the thigh a little larger than before. Then followed an anæsthetic condition which continued for a long time. This passed away and the part became hyperæsthetic. At the present time there remains deep soreness, and the deeper the pressure the greater is the discomfort and even pain. All of the symptoms are brought to a maximum by exercise. Otherwise she is in sturdy health.

There are somewhat similar cases where the trouble is distinctly in the periosteum, and this should be borne in mind. Many years ago I saw a lady who had a swelling of the thigh, followed by anæsthesia and hyperæsthesia, which passed away, leaving intense pain on walking. I insisted on a surgeon cutting down, and there was found a little thickening of the periosteum and half a teaspoonful of pus. The second case was that of a gentleman from the West, who had suffered for years, and was supposed to be hysterical. He had two spots at the lower part of the tibia, where he had, at times, intense hyperæsthesia, and then this would pass away to return anew. Finally, I insisted upon an operation. Dr. Morton cut down on the bone and found two small cysts in the tibia about the size of marbles. These were removed and there was no further trouble. In both of these cases there were many of the symptoms usually found in the cases which probably are more purely neuroses.

Dr. HENRY J. BERKLEY, of Baltimore, read a paper on
EXPERIMENTAL LESION OF THE CORTICAL TISSUES OF THE RABBIT'S BRAINS INDUCED BY
ACUTE ALCOHOLIC POISONING (See page 236).