possible that in them we have to do with the inherited disease. I would urge every one who meets with such cases to push his inquiries in this direction. In doing so I am only repeating advice given by Mott and Percy Smith, the latter of whom has placed a case on record (*Brit. Med. Journ.*, February, 1901).

(1) Shown at the meeting of the Northern and Midland Division at Morpeth, on October 9th, 1903.

Notes on a Case where Treatment with Thyroid Extract repeatedly resulted in Temporary Benefit.(1) By NORAH KEMP, M.B., C.M.Glasg., Assistant Medical Officer, The Retreat, York.

IN the treatment of mental disease thyroid extract was first administered in cases of myxœdematous insanity, resulting in the cure both of the myxœdema and the insanity. The next step was to discover that administration of extract of thyroid gland frequently produced a condition of fever in the patient. In view of the fact that a heightened temperature in an insane patient sometimes brought with it an improvement in the mental condition, thyroid extract was again tried, with variable results.

In 1900 Dr. Easterbrook published his analysis of 130 cases treated with thyroid, out of which number 12 recovered, 29 were improved, and 89 remained unimproved. He comes to the conclusion, after a detailed and exhaustive examination of these cases, that the benefit obtained results from the specific effect of the active principle of thyroid extract, which is to stimulate tissue oxidation.

Our experience of thyroid extract at the Retreat has proved disappointing, except in this one case, where very marked improvement took place, but was only temporary, and did not appear until poisonous doses had been given.

This case is one of mania of now nine years' duration, throughout which time there has been little change in the condition of the patient until brought under the influence of thyroid extract, when for a week—and the change came quickly without any gradual, slow improvement,—instead of an excited, noisy, violent, destructive, and badly behaved patient

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we had to deal with a quiet, pleasant, intelligent gentlewoman. The facts of the case are these:

A. B— was first admitted into the Retreat on July 2nd, 1884. She was then 25 years of age, unmarried, and of no occupation. She was born in India, but how long she remained there is unknown. Before coming to the Retreat she had been living in Sheffield. The notes of her case at this time record that there was nothing peculiar about her infancy or childhood, that she was of average intelligence, and had received a good education. It is noted that a paternal uncle was said to be insane. When she was eighteen years of age she had an attack of mental disorder following upon typhoid fever; she was treated at home during this attack, which lasted for more than twelve months, and from which she made a complete recovery. She remained well for the next six or seven years. At the time of her admission to the Retreat in 1884 she had been ill for three weeks. No cause could be assigned for this second attack; there had been no trouble at home of any sort, and she had not overworked herself. The first symptom of insanity was the writing of careless and incoherent letters. This was accompanied by restlessness and sleeplessness, and later on there appeared delusions of a fleeting nature. On her admission she is reported to have been excited and altogether in a state of exaltation. Hallucinations of hearing are said to have been present, but the nature of these is not mentioned. She held conversation with imaginary people; her attention was difficult to secure, and her conversation rambling. She is described as having hair and eyes dark, with strabismus of both eyes upwards and outwards; heart and respiratory system normal. A condition of restless excitement, often maniacal in degree, seems to have characterised this attack, which, beginning in July, 1884, terminated in a complete recovery in January, 1886. Before she began to get well at this time she slept a great deal, much more than is usually observed in cases of this kind.

She was again admitted to the Retreat in 1893, on February 21st. She was then thirty-three years of age. The causes assigned for this attack are nervous shock and predisposition. She is stated to have been suffering then from otorrhœa of the right ear. She was in a state of acute mania, talking incoherently and incessantly, mixing with her talk verses from hymns, passages from Scripture, quoting from the Creed and the Lord's Prayer, referring to Brahmins and Hindoos, and swearing freely. She was destructive and violent, and did nothing for herself. Two months after her admission some slight improvement was noted, but this was soon followed by a relapse into the old state. Since then —except that all her symptoms have been accentuated, as she has been noisier, more violent and destructive, and has done nothing to help herself in any way—the case exhibited little variation up to 1898. By that time she had got into the habit of incessantly rubbing her hands together. Her violence often took the form of sudden impulses, and, being no respecter of persons, she would quite suddenly kick out at any trustful creature standing near. Her appearance then was similar to what it is now, and it is a very curious one. She wears a plain dress made of some strong material. Her figure is angular and her hair is

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short. There is the squint and some exophthalmos. The attitude she most commonly adopts is sitting on the sofa or floor, Eastern fashion, with her back very straight and holding up her two hands at one or other shoulder, rubbing them together vigorously, till the skin of the palms has become thick and hard. There she will sit, singing and shouting, for a long time, the noise at night being similar to that during the day. The treatment had consisted chiefly in regular out-door exercise, with plenty of nourishing food, eggs, beef tea, milk, etc., in addition to the ordinary diet, with some bynol. She rarely had any sedative. Her condition had apparently become one of chronic mania, when in May, 1898, it was decided to put her upon thyroid extract. She was first of all weighed, then kept in bed for a day or two for purposes of observation, the temperature and pulse being noted thrice daily—the former being about normal, and the latter about 72 and of good quality. She weighed 7 st. 13 lbs.

On May 10th she was given 10 grains of thyroid extract thrice daily in tabloids of 5 grains each. The dose was increased daily, and on May 13th she was getting 25 grains three times a day. There was no rise in the temperature, but the pulse had increased from 72 to 90 beats per minute; the patient had slept for three or four hours each day, but had occasionally been restless; she was taking her food well. Two days later the dose had been increased to 35 grains three times daily; still no rise in the temperature; pulse 90; slept for about two hours during the day; was much quieter, and was still taking her food well.

On May 18th she was getting 40 grains three times a day; still no fever; pulse 98. Patient was sleeping three or four hours each day, but was still noisy and restless now and then; appetite good.

On May 19th, nine days after its commencement, the thyroid was stopped. The pulse had not increased in rapidity, but had become small and irregular. For a short time on that day she was excited; after that she was very quiet, sleeping most of the day. She was then given 5 grains of the citrate of iron and quinine three times a day.

On May 22nd patient talked sensibly, was very quiet, and slept about four hours. Pulse was about 80. The following day the improvement continued. The pulse had again increased in rapidity.

On May 24th she appeared sensitive about her surroundings, and asked to be relieved of the strong clothing which she had been wearing, it being what we supplied to the destructive patients. She was provided with more suitable clothing and moved into a pleasant bedroom, which was furnished brightly and comfortably. Had she been given such an one three weeks before she would have reduced it to an utter wreck. This change she appreciated, and was gently grateful for it all. She spoke of having been very ill, but did not appear to remember events which had taken place during the period of excitement. She was able to take a short walk in the grounds, and this she enjoyed, and noticed intelligently the things around her. She was decidedly weak physically. A day later she appeared exhausted, slept for three hours during the day, and had another walk in the grounds. She was still quiet and rational. This evening the temperature rose to 99·2° F., this being the first rise observed.

On May 26th, five days after the thyroid had been stopped, the pulse

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was noted to be irregular and feeble; patient had not been inclined to talk, and had complained of aching pains in the legs and side, and said she was feeling ill. She had been exhausted and drowsy, but had not slept much. At 9 p.m. patient was flushed, and the temperature had risen to 100°. The next morning at 4 o'clock the night nurse noticed patient talking to herself, and two hours later she was in a state of much excitement. She was once again noisy, excited, and violent, talking and shouting and rubbing her hands together. The thyroid extract was renewed, and continued for ten days; she was getting 45 grains three times a day for three or four days when it was stopped. The pulse had dropped from 110 to 100, and, on stopping the tabloids, to 85. The patient had gradually become calmer day by day, sleeping more and more each day.

On June 8th patient was again a rational being, and behaved as such. Three days later she complained of feeling very poorly, and of having pains in the legs and side.

On June 11th, as these symptoms seemed to indicate an impending relapse, she was given 25 grains of thyroid extract twice, but she did not get any more. The next day the pulse was very rapid—140; temperature normal. Patient was still quiet, but not so bright; she asked for paper to write to the Queen to thank her for all her kindness. The following morning patient was sleepy and quiet; pulse small and rapid—140; temperature 99·2°; was flushed, and complained of not feeling well. At 12 noon she was found asleep, and fifteen minutes later she was awake, was much excited, and rubbing her hands together in the old fashion. Throughout the treatment patient had taken her food well, but she had lost 16 lbs. in weight in the month. She was given invalid diet, and encouraged to take as much food as she could. At this point the treatment had to be abandoned on account of its profound effect upon the heart, and because the physical condition of the patient had been so much reduced. We had then to restore her bodily health to its level at the beginning of the administration of the thyroid, and it took some months to do this. For another year there was no change in the mental condition of our patient.

In October, 1899, she was again put upon thyroid extract, producing a repetition of the phenomena which resulted under the same conditions fifteen months previously. There was the increasing sleep and the gradual quieting of the patient as the thyroid was pushed. The breakdown was again heralded by flushings of the skin and a sudden marked increase of the pulse-rate, and the patient making the same complaints of feeling ill.

In May of this year, for the third time, thyroid extract was given to this patient. As on previous occasions, she was kept in bed for three days before the treatment was begun, her pulse and temperature being noted every four hours. The rate of the pulse was about 80; it was regular and of good quality. The temperature was subnormal. She had her first dose of thyroid on May 2nd, when she had 4 grains. No change took place in her condition for six days, when the temperature rose to 99·6°, but fell again to normal, not accompanied by the slightest change in her mental condition. Three days later she was quieter, and slept most of the day. She was talkative in the early part of that night,

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but soon fell asleep again. The temperature had not risen above 98·2°, and the pulse was about 100—104. On May 13th she had 108 grains in all; she was drowsy, very flushed, was taking her food well, and showed no change in pulse or temperature. Two nights later she slept well, and when awake was very sensible in her conversation. The next day she slept much, complained of thirst, and was sensible to talk to. Still no fever and no increase in the pulse-rate. Early in the morning of May 18th she complained of not feeling well; she was drowsy, answering questions slowly, but coherently; pulse slightly irregular, rate 108; patient complaining of thirst. On May 19th 72 grains given, being the same dose as the previous day; patient complaining of pains; quiet that day, but restless in the early part of the night, and she did not sleep so well. Thyroid stopped on May 20th; pulse 144, irregular; complaining of pain and of feeling very weak. At 10 p.m. of this day a complete relapse ensued; she was again noisy and excited, rubbing her hands together and shouting. She had to be removed to a strong-room again, as all the old symptoms had recurred.

This case was one of considerable wonder to us, as the change in the patient was so very striking. Her very appearance was altered during the week of mental clearness; the squint did not force itself so much upon one's attention, and the exophthalmos was less marked. Her voice, which in her ordinary condition is deep and loud, was, when she was well, soft and low, and rendered attractive by a touch of the brogue. During one of these weeks, at the instigation of Dr. Pierce, her brother, a medical man, visited her. He had not seen a lucid interval in her for over five years, and it made a striking impression upon him.

It was not as though we had got this strange transformation once only in the patient, and could not tell what influence brought it, or how to recall it; but in the administration of thyroid extract it would seem we had the power to call back at will this glimpse of the patient's real self; but how to keep it is another matter.

Thyroid extract seems to have promised so much and realised so little. It is not given without some risk to the heart, and the danger seems to set in just when there appears to be some improvement in the patient's mental condition. Yet, although the hopes which were naturally raised high by the first introduction of this treatment have not been fulfilled, there has been a sufficient number of cases which under it have improved or recovered to warrant a continuation of its use.

(1) Read at the meeting of the Northern and Midland Division at Morpeth, October 9th, 1903.

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