

*On Thyroid Feeding, based upon the study of a second series of Sixty Cases.\** By LEWIS C. BRUCE, M.D., Assistant Physician, Royal Asylum, Edinburgh.

In the "Journal of Mental Science," January, 1895, I published the results of thyroid feeding in thirty cases of insanity. Since then we have treated at least sixty cases at the Royal Edinburgh Asylum.

The majority of cases chosen for treatment were unfavourable, and all had received without apparent benefit the best dietetic and therapeutic treatment which the asylum could give prior to the administration of thyroid tabloids.

Notwithstanding these circumstances we have had several most gratifying results in the shape of recoveries, where patients threatened to pass into confirmed dementia, or had remained stuporose for long periods—in one case of two years' standing.

In view of the fact that the above quoted paper has been so recently published it is unnecessary to recapitulate the details therein noted.

The more important conclusions have been verified by further experience, and complications encountered have been similar in kind.

There is no longer any doubt in my mind that thyroid feeding produces a most beneficial effect in certain cases of insanity, but how this effect is produced is still largely a matter for conjecture.

In approaching this view of the subject the following questions present themselves:—

1. Is the action due to the febrile process induced by the thyroid and the subsequent reaction to the fever?
2. Is thyroid extract a direct brain stimulant?
3. Does the ingested thyroid supply some material to the body which the gland is supplying in deficient quantity?

The febrile disturbance induced by the thyroid administration is very variable in character. In the majority of cases the temperature rarely runs as high as 101° F., and in no case have I ever seen the temperature above 102° Fahrenheit without some complication. In connection with this, however, it is advisable to note that the average temperature of the chronic insane appears to be 97·4° instead of 98·4° as in healthy subjects.

\* In the absence of Dr. L. C. Bruce his paper on "Thyroid Feeding" was read by Dr. Clouston at the Annual Meeting of the Medico-Psychological Association, 1895.

A typical thyroid temperature is as follows, with a dose of 60 grs. per day: The first day of treatment no reaction; on the evening of the second day the temperature rose to 99·8°; third day, morning temperature 98·5°, evening 100°; fourth day, morning temperature 99°, evening 100·2°; fifth day, morning temperature 98·8°, evening 99·8°; sixth day, morning temperature 98·2°, evening 99·6°. On the seventh day and three succeeding days of treatment the temperature never rose above normal. This record is quoted from one of the cases treated, and many of the other charts closely resemble it. From this it may be inferred that there appears to be a limit to the febrile producing power of the drug.

Simultaneously with the fever we have quickened pulse, moist flushed skin, general malaise, sometimes pains in the limbs, headaches, and a rapid loss of body weight. Many cases are, however, not typical. The temperature may only occasionally rise above normal, or show an irregular tracing, up one day and down the next. The physical symptoms of fever, however, quickened pulse, etc., are never absent in these cases, and they lose weight just as rapidly as the cases where a febrile temperature is well marked. So we have two well-defined classes, one with a definite febrile temperature, the other with low temperature, both suffering equally from symptoms of general poisoning. Looking at the recoveries in connection with the temperature charts no assistance is obtainable; as many recover in the one class as the other. Notwithstanding these facts I believe that whether the temperature rises or not we have practically obtained the effect of a fever, *i.e.*, the effect of a toxine circulating in the blood, by the use of thyroid.

During the actual administration of the drug, and period of fever and malaise, many cases show undeniable improvement, in some an actual recovery, in others a steady return or awakening of the mental faculties, which culminates in recovery during the period of reaction following treatment.

This period of reaction is generally well marked and has a beneficial effect not only on the patient, but on the physician—one sees again a chance of applying therapeutic and dietetic remedies with some chance of success, and the patient frequently gains considerable benefit from such treatment when the recuperative resources of the body are stimulated to unwonted activity in replacing the weight lost during the actual treatment. Such is briefly the actual

and visible result of thyroid feeding, and it has all the appearance of a condition induced by a toxine introduced into the blood through the medium of the mucous membrane of the stomach.

Is thyroid a direct brain stimulant? Every psychologist has noticed, and many have commented upon the improvement observable, even in demented cases, during some acute intercurrent disease. The patient becomes talkative, takes an interest in his surroundings, and there may be some amelioration of bad habits, etc. In many cases these symptoms are noted in an exaggerated manner in patients the subjects of thyroid feeding. A patient at present under treatment at Morningside has been an inmate for nine months. He appeared to be somewhat demented on admission, and has steadily become more confused and foolish since then. He was treated three months ago with large doses of cerebrine, with no effect. Three days after thyroid treatment was commenced, he became more lively in appearance, answered quickly when spoken to, and proved clearly that during his nine months' residence here his cortical cells had been receiving and retaining impressions from without. On the fourth day he was singing and obviously elated, and though he spoke fairly sensibly and denied several delusions expressed on admission, he was still very insane and in a state of mania. Thyroid in this case appeared to act as a cortical stimulant. On another occasion we had three cases of mania under treatment whose acute symptoms had been replaced for several months by those of secondary stupor or approaching dementia. They all during treatment again became maniacal. One passed from this induced mania into convalescence and recovery. The other two relapsed to their former condition. Here again the symptoms of cortical excitation were obvious and in each quite out of proportion to the febrile condition induced. I have seen at least a dozen cases with symptoms as acute as those quoted, and the impression they made on my mind was that thyroid is a direct brain stimulant which may prove advantageous treatment in cases whose higher cortical cells remain in an anergic condition after acute attacks of insanity.

Does the ingested thyroid supply some material to the body which the gland is supplying in deficient quantity?

The period of physiological activity of the thyroid gland is different in the two sexes. In males the thyroid attains

its full development at adolescence and then atrophies. During puberty and early adolescence in males the thyroid gland frequently becomes enlarged as if functional activity was then increased. In females the thyroid attains full development after menstruation is thoroughly established, and it appears to remain functionally active when any call is made on the bodily economy up to the period of the grand climacteric, when the gland gradually atrophies. In women the thyroid plays a special part in the metabolism of the sexual organs, and I have frequently noticed enlargement of the thyroid in puerperal, lactational, and climacteric cases, so it is probable that this enlargement corresponds to increased functional activity at these periods.

Whatever the cause, cases of puerperal and climacteric insanity have given very favourable results to thyroid treatment, and I mention this fact in connection with the preceding paragraphs as suggesting a more scientific use of the drug in therapeutics. Out of sixty cases the total number of male cases treated was twenty-five, whose ages ranged from 20 to 55 years. Seven of these recovered, four of whom were between 20 and 25 years of age; of the remaining three two were between 30 and 40 years, the third being 43 years of age. The total number of female cases treated was thirty-five, whose ages ranged from 20 to 65 years of age. Seventeen of these recovered, the recoveries being very equally distributed from the age of 20 to 50 years. Thirteen of these recovered females were either puerperal, lactational, or climacteric cases.

The results of treatment looked at in this way prove that the action of thyroid is complex.

1. It undoubtedly produces a mild feverish condition, the action and reaction to which is often of considerable benefit to the patient.

2. It is a direct cerebral stimulant.

3. 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 on Dr. Bruce's Paper.*

In reply to Dr. Fletcher Beach, who asked whether the cases cited were cases of ordinary dementia or ordinary mania, Dr. Clouston stated (in the absence of Dr. Bruce) that they were cases (1) of melancholia in which improvement had been arrested; (2) of mania showing signs of dementia; (3) of stupor at an early stage; (4) of general paralysis; and (5) of dementia, even of forty years' standing. In fact they were at present going through a series of therapeutical experiments; and although they could not expect such

cases to recover they were watching the effect on the brain. One remarkable case was that of a patient, suffering from puerperal insanity, who had been two and a half years in the establishment, and had been looked upon as a case of dementia, but who was now as well, as vigorous, and as able to earn her own living as any of them.

Dr. BEACH stated that he was watching three cases of cretinism under treatment in which the temperature was abnormally low—as low as 97°—but went up as soon as the five-grain tabloids were given. When treatment ceased the old condition returned, so that it was necessary to continue the treatment indefinitely.

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*Public Provision for Pauper Idiots and Imbeciles in England and Wales.\** By G. E. SHUTTLEWORTH, B.A., M.D.,  
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My apology for bringing forward this subject at the present time is that considerable interest with regard to it has recently been evidenced by correspondence and comments in the medical journals, as well as by inquiries set on foot by the Lunacy Commissioners and the Local Government Board. The former have published in their 49th Annual Report, just issued, a "Return showing the Number of Pauper Idiot, Imbecile, and Epileptic Children in the Asylums, etc., on 1st September, 1894,"† and a return of similar character as to such children in workhouses has been issued by the latter. The upshot of the whole matter is that, according to these returns, there are in lunatic asylums 525 children of this class (335 males, 190 females), and in workhouses 485 (281 males, 204 females). The latter number includes, however, 93 children returned as "epileptic only," so that of idiots and imbeciles in workhouses under 16 years of age there are but 392. Adding together those in lunatic asylums and in workhouses we find that a total of 917 youthful idiots and imbeciles are provided for by the Poor Law in these institutions. The Local Government Board return, however, gives us no information as to the large number of such children living with poor parents who receive on their behalf some parochial relief. In the Commissioners' return the children are classified as *idiots* and *imbeciles* respectively, 399 in the former, 126 in the latter class; and 154 are said to be in the opinion of the medical officers likely to be improved by

\* Read at the Annual Meeting of the Medico-Psychological Association, 1895.

† 49th Report Commissioners in Lunacy, App. N., p. 390 *seq.* "Imbecile and Epileptic Children in Workhouses." Local Government Board Return, Feb., 1895.