

disease—we may conclude: (1) that the inoculations even in the largest doses hitherto used do not confer a complete immunity; (2) that a considerable degree of immunity seems to be conferred when the doses injected are sufficiently large to produce marked febrile reaction; and (3) that smaller doses confer little or short-lived protection, judging from the cases in the East Lancashire regiment and in Upper Assam.

## NOTES ON THE TREATMENT OF GRAVES'S DISEASE BY THYMUS GLAND.

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It is useful to collect cases of any new method of treatment, even if too few for deduction of absolute results.

In 1895 Dr. Owen<sup>1</sup> reported a case of exophthalmic goitre which was clearly benefited by the accidental use of thymus gland in mistake for thyroid, a mistake made by the butcher. I have since put four patients on this treatment, and the following are notes of the cases.

CASE 1.—The patient is a married woman, of a highly neurotic family, who has been affected about eight years, having presented every known symptom of Graves's disease for five or six years in great severity;<sup>2</sup> the cardiac and paralytic conditions were such as to confine her to bed for over a year. The goitre was large and increasing, and the gastro-intestinal attacks were severe and prominent. In July, 1895, the administration of thymus was begun. Tabloids were given, at first in ten-grain doses twice a day, but no effect was produced by their continuance for several weeks. The dose was then increased to forty-five grains per diem. She rapidly improved, but has relapsed so repeatedly on leaving off the thymus tabloids that she refuses to discontinue their use. Under their use all the signs are ameliorated, but no effect is produced on the size of the thyroid. I have had this patient under constant observation for eight years, and no other drug has produced any good result, not even belladonna freely administered, though Lister's coils applied to the præcordium have given her some relief from palpitation and sickness. The tremor in this case was highly marked and constantly improved by thymus.

CASE 2.—In a married woman aged thirty-nine years, of a highly neurotic family, goitre has existed since childhood, but the thyroid is clearly smaller than formerly. The cardiac symptoms and general failure of the health date back six years from an attack of influenza, now recognised as a common starting-point for the manifestation of Graves's disease. Tremor, excessive muscular weakness, and cardiac disturbance were all well marked. In February, 1896, she was put on fifteen grains of thymus tabloids twice a day. This treatment was continued for two months with great improvement of all the symptoms, especially of the tremor and loss of muscular power.

CASE 3.—In this instance a married woman forty-seven years of age presents a common history in this condition. When about seventeen years old she was quite invalided by obvious signs of Graves's disease, including a large thyroid, great proptosis, cardiac disturbance, diarrhoea, extreme emaciation, and great mental disturbance, with partial dementia and delusions of terror. After a few years she apparently recovered entirely and enjoyed good health. She remained, however, subject to diarrhoea, easily excited by emotion, and great mental excitability. In November, 1894, she presented retraction of the right upper eyelid increased by excitement or nervousness, and soon after she showed slight proptosis and occasional thyroid swelling. There was, however, no disturbance of the heart till about January, 1896. All these symptoms were then increased during the anxiety caused by her husband's illness. His sudden death in May, 1896, caused an outburst of all the usual symptoms. She began taking a fluid extract of thymus (tabloids being found to cause nausea) and improved steadily during two months' administration. The regular use of digitalis in increasing doses for some previous weeks had produced little effect on the cardiac irregularity.

CASE 4.—The patient was a married woman, fifty years of

age, who has been goitrous since she was eighteen years old, but she presented no signs of Graves's disease till 1891, though I had had her under observation for some years previously. She has since manifested all the usual signs, as well as various severe nervous symptoms, which I have detailed in former papers<sup>3</sup>—viz., paralysis of various basal nerves, ptosis, ophthalmoplegia, paralysis of facial, dementia, ambulatory "epilepsy," &c. Tremor had always been highly marked, gastric and intestinal symptoms were not prominent as a rule, but she has had infrequent attacks of diarrhoea and hæmatemesis of great severity. She had in 1894 twenty-four motions in one day of almost pure arterial blood. In November, 1895, she had a sudden profuse hæmatemesis followed by collapse so extreme that she seemed moribund. After she rallied she was given forty-five grains of thymus tabloids per diem for a month, and her improvement was very remarkable; she remained in a fair state of health for many months.

In the last three cases I have given I cannot claim that the rapidity and maintenance of improvement have been more than might occur under other treatment or under none at all; but I am prepared to assert that the value of thymus seems as great as that of any other drug, such as belladonna. It certainly does improve the deranged heart action, but it seems more particularly to lessen the gastro-intestinal symptoms and the tremor and general muscular weakness. Three of my cases have presented great psychological alteration, and in all of them the mental state has improved readily. Mikulicz<sup>4</sup> reports a case treated by raw sheep's thymus in doses of ten to twenty-five grammes in gradually increasing doses about three times weekly. The subjective symptoms, the exophthalmos and tachycardia were all diminished, but the goitre and tremor remained unchanged. In Case 1 the tremor has been quite excessive and has always been relieved by thymus at once. Cunningham<sup>5</sup> administered thymus, as fresh gland or in tabloids, in four cases, and marked improvement resulted in all. He remarks that his cases and Owen's were "not of the type secondary to an ordinary hypertrophied thyroid." This remark applies to two of my cases only. It has, however, no practical bearing, as many pronounced cases of exophthalmic goitre present little recognisable thyroid enlargement. In none of my patients was any effect produced in the size of the thyroid; in fact, in one of them it steadily increased. No useful purpose would be served by speculating here as to the mode of action of thymus in these cases; I wish merely to supply a note on this line of treatment to enlarge its application and multiply observations thereon. No bad effect has been found to follow the exhibition of the largest doses.

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## AN ACCOUNT OF TWO CASES OF COKO OR FRAMBOESIA.

(ILLUSTRATED BY REPRODUCTIONS OF PHOTOGRAPHS.)

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THE following two cases are of sufficient rarity to make them, I believe, worth recording, especially as Nickolls, in his report on Yaws in the West Indies, makes the assertion that the koko of Fiji is a different disease from the yaws of the West Indies.

CASE 1.—An Indian immigrant, under indenture to the Rewa Sugar Estate, was admitted to the Koronivia Hospital on May 26th, 1894, suffering from a simple ulcer of the instep of the right foot. He had been absent from the plantation for three weeks prior to admission, during which time he had been living in Fijian native towns and going about without any dressing on the ulcer. Coko was prevalent in all the towns in which he had resided. His general health had been good and there was no history of any specific disease; his parents were living and healthy. A red wash dressing was ordered and he was placed on ordinary diet. On June 1st

<sup>1</sup> Brit. Med. Jour., 1894, vol. ii.

<sup>2</sup> St. Bartholomew's Hospital Reports, vol. xxvii., p. 139, and vol. xxix., p. 187.

<sup>3</sup> Brain, 1892, vol. xv., p. 121. Journal of Mental Science, January, 1896. St. Bartholomew's Hospital Reports, 1891, vol. xxvii., p. 137.

<sup>4</sup> Berliner Klinische Wochenschrift, April 22nd, 1895.

<sup>5</sup> Medical Record, June 15th, 1895.