OBSERVATIONS ON THE ACTION OF THE BRAIN OF THE SHEEP IN DISEASES OF THE CENTRAL NERVOUS SYSTEM AND MIND.

By ALEX. ROBERTSON, M.D., F.F.P.S.G.,

Physician to the Royal Infirmary and City Parochial Asylum, Glasgow;
Professor of Medicine, St. Mungo's College, Glasgow.

THE remarkable effect of the thyroid gland in the treatment of myxœdema has naturally stimulated inquiry into the action of other glands and animal structures generally in various morbid conditions of the system. The question was obviously suggested, Might not these organs or their active principles have a similar beneficial action in many organic diseases or functional disorders, particularly such as affected the same structures as those administered, for example, the suprarenal capsule in Addison's disease and the brain in cerebral disease? Greater and more respectful attention was at the same time directed to the observations of Brown-Séquard on the orchitic fluid.

Impressed with the fact that the gastric juice did not impair the action of the thyroid gland or its extract as a remedial agent, it occurred to me to test the effect of brain substance taken into the stomach in some organic and functional diseases of the brain and spinal cord. I was not, however, very sanguine as to the result, for, first, a formed product, like the cerebral tissue, differs materially from a glandular secreting organ, as the thyroid no doubt is; and, secondly, it seemed not unlikely that the soft pulpy material of the brain would be more fully acted on by the digestive secretion of the stomach than the firmer and more resistant constituents of the gland, or even than a concentrated fluid extract. But, though these objections presented themselves, the fact remained that, notwithstanding the previous preparation of the thyroid and its submission to digestion in the stomach, there appeared to be no material impairment of its curative power in myxœdema, and it was therefore possible that other organised matter, though subjected to similar disintegrating processes, might still be efficacious in morbid states of the body. Influenced by these considerations, it was resolved to test the action of brain taken by the mouth as an aliment.

In all cases the brain of the sheep was used. Arrangements were made with a butcher to have it removed from the head of the animal within an hour or two after it was killed for the market. It was immediately taken to a chemist, who made a glycerine preparation of it, flavouring and colouring it with cinnamon, cochineal, etc. Within twelve hours the medicine, if we may so call it, was ready for being dispensed; it kept quite fresh, when in a cool place, for four or five days. The usual dose prescribed was one teaspoonful thrice daily before meals, but in some cases this was increased to two teaspoonfuls. In no case was sickness or nausea produced when given in the smaller dose; but in one or two patients the stomach was intolerant of the larger quantity, and it was necessary to reduce it. The taste was not unpleasant, and no one complained that it was disagreeable to the palate. Care was taken not to mention the nature of the medicine in the hearing of the patients, lest they should revolt at its use. I have named it myelin, which indicates its nature.

The preparation was administered to six patients in all in the asylum, and five in the Royal Infirmary. The former group included two cases of subacute melancholia of an ordinary type, and one of the resistive variety of that disorder; one of simple and one of chronic mania, and one of delusional insanity (paranoia). The infirmary cases consisted of two cases of bulbar paralysis, one of general paralysis, one of chronic myelitis, and one of locomotor ataxy.

Besides noting the effects on the disease of the nervous system, observations were made on the pulse, temperature, respiration, and general condition. Looking at the results generally in relation to all the cases, there was no decided alteration in the bodily state while the myelin was being taken; no doubt two patients gained each about 2 lbs. in weight, but two others lost about the same amount. In two patients the respirations increased from 18 to 24 per minute, but in the others they were unchanged.

Referring now more particularly to the cases of insanity: in two there was improvement; in four there was no apparent alteration in the mental disorder. The most marked change occurred in the case of resistive melancholia. The patient was a married woman, aged 36, who had been an inmate of the asylum for two years and three months, when this special treatment was commenced. She had not improved, except in her bodily health, which was excellent; mentally she appeared to have sunk into a state of hopeless insanity. She had ceased to speak for at least a year previously, sat with her mouth pursed up, looking fixedly on the ground, did no work, and paid no attention to anything going on around. Early during her residence in the asylum the water cap had been applied to her head and water circulated through it at from 110° to 115° F., but this treatment was soon stopped, as it did not appear to act beneficially.

On January 6th, 1893, myelin was begun in teaspoonful doses thrice daily before meals. On January 24th the following note was taken: "On the third day after the medicine was commenced the patient became decidedly more active in mind, and since then the improvement has increased. Thus she now sits down to sew of her own accord, and does anything she is asked to do without pressure. On the third day, also, she began to speak, but only uttered a few words, and after being urged. On the fourth day the myelin was increased to two teaspoonfuls thrice daily. For some days after this she spoke somewhat freely and sensibly in answer to simple questions, but afterwards she got duller and spoke less." On February 8th it was noted that she still spoke occasionally and correctly, but that at other times she was rather obstinate, though she did as she was told without delay. At this date her weight had increased by 2 lbs. The myelin was continued till June 14th, when it was definitely stopped. During the interval between February and the close of its administration it was stopped and resumed after some days on three occasions. No distinct effect was, however, observed as a result of these intermissions and resummptions, except that latterly she became more excitable. About five weeks after the myelin was last given, the excitability, which had rather increased, culminated in her breaking several panes of glass. Since then she has been calmer, but has once more ceased to talk, though she continues to work, and shake hands with anyone who puts out his hand to her. Considering the case as a whole, it is no doubt clear that patient has fallen back to some extent; still there remains improvement when her present state is contrasted with what it was before the myelin was commenced.

The other patient, who has improved, is a woman, aged 60. She was admitted on February 10th, 1893, labouring under profound melancholia of thirteen weeks' standing; she refused food, and was suicidally disposed. There was also paralysis agitans of the right arm. Treatment of an ordinary kind was carried out till April 1st. There was then a little improvement, but it was not marked. She still required compulsion to take food, and it was necessary to keep her under observation. She was now ordered myelin in teaspoonful doses thrice daily. Under its use there was soon more obvious improvement, as was shown by her no longer requiring compulsion at meals, and by the alleviation of the mental depression. But the earlier rate of improvement was not maintained, and the myelin was stopped on May 6th. Since then her progress has been slow but satisfactory, though she cannot be considered well.

In this case the benefit derived from the myelin is less clear than in the first one, but it is probable that a part of the decided improvement should be ascribed to it. From a prognostic point of view the presence of the shaking palsy is not favourable to complete recovery. In the other cases of mental disease it was not clear that any effect was produced by the medicine, and it was, therefore, discontinued after a few days' trial.

In reference to the second group of patients, those, namely, who suffered from well-marked organic disease of the central nervous system, in only one could it be said that there was definite improvement under the use of the myelin. This was the case of chronic myelitis. The patient's power of walking was markedly improved for some weeks, but this change for the better was not maintained, and he gradually relapsed into his previous condition. No

clear alteration, either for the better or the worse, was observable in any of the others.

These, then, are the results of my experience with this preparation. They cannot be said to be either definite or striking. And yet the impression remains on my mind that there is a constituent in the brain of the sheep, and doubtless also of other animals, which acts as a stimulus to nerve tissue cell and fibre in the human subject in certain morbid states of these structures.

It is probable that more decided beneficial effects will follow the subcutaneous injection of extracts of nerve substance. Indeed, this is claimed for them by several physicians.

But it appears to me to be premature, especially in the case of such a disease as epilepsy, to record "cures" soon after this or any other method of treatment has been adopted. Where there is improvement or apparent recovery, the powerful influence on some minds of the use of a new remedy, especially if there be anything peculiar in its nature, with the consequent reaction on the bodily disease, should always be remembered. When seeking to estimate the value of treatment in any case this should be carefully considered, but more particularly when the morbid change is in the nervous system; not seldom the psychical is really the chief remedial agent. For the most part, the published statements respecting the action of injections of the extract and emulsion—for both have been used subcutaneously—have been somewhat vague and general. It is desirable that careful accounts of cases, detailing the condition before and after treatment, should be recorded, and that where there is improvement a reasonably long time should elapse after the subsidence of the symptoms before the patient is pronounced to have been cured.

CLINICAL ANÆSTHETIC NOTES AND REMARKS ON A CASE OF CARBUNCLE TREATED BY EXCISION AT THE AFZULGUNJ HOSPITAL.

By SURGEON-LIEUTENANT-COLONEL EDWARD LAWRIE.
Hyderabad

RUSHTON PARKER's plan of extirpation was followed in this case. The operation was performed in the manner recommended by him, "by cutting through the skin around the diseased area" (in this instance 16 inches in circumference), "keeping clear of all suspicious tissue, and then removing the whole. There was no difficulty in distinguishing the diseased tissue from the healthy."

My attention was directed to this procedure by an article in the *Medical Chronicle*, and the principle of the operation at once commended itself to me, because we have for some time past been performing extirpation, in numerous inflammatory conditions, with excellent results. Since the year 1876 I have treated buboes requiring surgical interference almost exclusively by excision; and we have lately had several cases of suppurating bursa, and of thick-walled abscess enclosing dead guinea worm, which have been rapidly cured by extirpation. The principle of Rushton Parker's operation is so thoroughly sound that I have no doubt it will supersede all other surgical methods for the treatment of carbuncle. In future operations a considerably larger amount of the skin might be preserved.

AFTER-TREATMENT.

The operation was performed on September 29th, 1893. The patient's temperature from 102° became normal in the evening, and she experienced great relief. On September 30th, when the wound was dressed, a suspicious-looking spot was noticed at the upper part under the skin. The temperature rose to 100° F. on the evening of October 1st, and accordingly on the morning of October 2nd the patient was placed under chloroform for the second time, and the suspected tissue excised. It proved to be a small mass of carbuncle left behind at the first operation. The temperature became normal again that evening, and her recovery since has been uninterrupted. She was discharged to the out-patient department on October 11th, 1893.

Heading.	Particulars.	Observations.	
1. Number ...	1,362 of 1893; 191 of September	H. M. S. 9 1 15	Administration commenced in 3j doses, with the patient lying on the side. Natural regular breathing, slight resistance
2. Date ...	September 29th, 1893		
3. Pulse and respiration immediately before the operation	(a) In bed; pulse 100, respir. 24. (b) On the operation table; pulse 12, respir. 32		
4. Food last taken ...	9 P.M., 23th	9 2 5	Cap removed while the patient was turned on to the back
5. Special features in the case	Very weak old woman		
6. Name, age, and sex	Mohiadin Kattoo, 75, female	9 2 15	Chloroform applied to the cap; one breath of air inhaled. Half-drachm doses
7. Operation ...	Extirpation of carbuncle of the back by Rushton Parker's method		
8. Chloroformist's name	Mahomed Peerun, fifth year student		
9. Struggling commenced		9 3 15	Chloroform applied to the cap; two breaths of air inhaled
10. Struggling ended	No struggling stage, except the slight resistance at first		
11. Respiration and intake during the struggling stage			
12. Cause of struggling		9 3 20	Snoring
13. First sign of complete anæsthesia	Cornea insensitive	9 3 55	Over; cornea insensitive; cap removed
14. Amount of chloroform required to produce complete anæsthesia	Two drachms and a-half.	9 5 0	More chloroform
15. Time occupied to produce complete anæsthesia	Two minutes forty seconds	9 8 10	Vomiting food
16. Rate in minims of chloroform applied to the cap per second	0.93 minim per second	9 10 15	Operation and dressing finished; patient removed to bed. The anæsthesia was normal, and the only remarkable point in the administration was that the usual struggling stage did not occur, and was replaced apparently by the slight resistance at first
17. Total amount of chloroform employed	Three drachms		
18. Duration of operation	Nine minutes		
19. After-effects ...	Vomited		

REMARKS.—I have never met with any case in which the relief of a carbuncle was so thorough and immediate as it was in this. The excision eradicated the disease, and nothing more convincing can be said about it. There is an infinite difference between a depressing, infecting, and therefore dangerous disease, and an aseptic healing sore; and the difference is accentuated by age and feebleness. A patient who is too old and feeble to undergo the process of healing of the aseptic granulating wound which is left when a carbuncle is excised will assuredly succumb to the prolonged septic sloughing and suppuration which are of necessity preliminary to the granulating and healing process under the old methods of treatment. Advanced age and debility, therefore, so far from being a bar to excision, render it pressing, if not indispensable. Finally, the small amount of blood lost during the operation in my case astonished everyone who saw it. The extirpation can be accomplished with ease and rapidity, and the hæmorrhage was not as much as it usually is when carbuncles of similar dimensions are treated by the crucial incision.

PRESENTATION.—The members and officials of the General Prisons Board, Dublin, presented, on November 30th, an address and a large solid silver salver to Dr. William Lambe on the occasion of his retirement, under the recent Treasury rule, from the service of the board. Dr. Lambe has been connected with the service for forty-three years.