CLINICAL LECTURE

ON

TWO CASES OF EPILEPTIFORM DISORDER, WITH PECULIAR PHENOMENA.

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CASE I.—W. Robbins, aged 35, carpenter, was admitted on February 19th, 1869. On admission, he gave us the following history. He had been ill since last May. He had first a violent cold at his chest, for which he was at the Brompton Hospital three months as an out-patient. He got better, and went to work; and, as he was beginning, was seized with a terrible trembling at the back of his neck, which made him drop his tools. At the same time, he felt pain, which passed upwards and spread over the top of his head. He shook all over from head to foot, and continued to tremble half the day. He was unconscious from the time he was attacked all the day; the next day, he felt better, and was conscious. He was taken home after the seizure, and remained at home until his admission to the hospital. The trembling returned after this first attack at irregular times; it might be absent for a day or two, and lasted sometimes three days. Sometimes he was unconscious. He was apt to be very cold, his feet especially. His appetite was bad; his bowels generally regular. He had been badly off lately. He did not know that he ever had fits. He never passed worms, and liked meat well done. He denied syphilis positively. He had no children. Nine of his family, brothers and sisters, had died phthisical, besides both his parents. He never had enlarged glands. When he was first attacked, he was very much worse than now; he used to have the tremor continually, and was insensible repeatedly. At the time of the attack, he quite lost the use of his limbs.

When seen after admission, his hands trembled; but the tremor seemed to be easily restrained. His feet did not tremble now; tickling did not cause reflex action. While I was speaking to him, he closed his eyes, and ceased to speak or answer, though pressed. His right hand trembled violently; his left did not, but was closed tolerably firmly. His feet and legs trembled forcibly. This lasted perhaps a minute; then he sighed, and became quiet. After a time he opened his eyes; and, on being questioned, spoke, and said that he had lost himself, and that that was the way in which he was seized. He made signs that he wanted something to drink; and, on being lifted up, and his head and trunk raised, the tremor returned strongly. His eyelids were frequently twitching. Pulse 112, of moderate force; skin cool. He said there was a dimness before his eyes. The pupils were rather large. He was not notably emaciated. No pain was felt on rotation or rotation of the head, but there was when the vertex was forcibly pressed downwards. Pressure on the spines produced pain about the sixth dorsal; higher up, there was no pain; but, at the sixth cervical spine, pain was again felt, and also a little below, as well as across, the occiput. He had some cough and expectoration. The next day, he looked and felt very much better. He had no tremor at all; he had slept well and eaten well; his hands were warm; his urine was pale, of specific gravity 1012, not albuminous. He was taking half a grain of extract of belladonna four times a day, and three grains of iodide of potassium with an ounce of liquor ammoniæ acetatis three times a day. I desired that his head and neck should be kept quite still.

Feb. 22nd. There was no pain now on pressure of the cervical or upper dorsal spinous processes. He was allowed ordinary diet and porter.

Feb. 24th. He was up and dressed. There was no pain whatever in the spine; no tremor at all. He seemed quite well, and went out soon afterwards. On March 24th, he stated that on the 16th instant trembling came on; he shook all over. He did not lose consciousness at any time, but felt cold. The attack lasted from 9 A.M. till the next morning, more or less. When he became warm, he was better. No other attack occurred since he left the hospital. He was not strong, and had not been able to work. The more he was in the air, the better he felt. A note with which Dr. Hay, his former medical attendant, favoured me, stated that, from the history and symptoms described, he had no doubt that the fits were epileptic. He never saw him in one, but found him recovering, being drowsy, and complaining of pain under the left nipple and a numbness and shaking in the back of the head and neck. He treated him throughout with twenty grains of bromide of potassium three times a day, and found that he was always much relieved even with the first dose. I prescribed the same remedy, and etherised cod-liver oil. He was readmitted on April 12th. He

stated that he went to work on the 5th; and, on leaving the railway, giddiness came on, and he did not feel in a condition to go into the shop. The giddiness lasted an hour and a half; he then went home. Since then he had had pain across the back of his neck, and had felt low and been badly off. The pupils were of moderate size. He was ordered half a grain of extract of belladonna four times a day, a sinapism to the back of the neck, ordinary diet, pudding, cocoa, and porter. The pain was much relieved by the sinapism, and he went on quite well till the 21st, soon after which he went out. There was no recurrence of the attacks till June 5th, and in July I heard that they happened occasionally.

CASE II.—W. J. M., aged 28, of slight make, was admitted January 24th, 1870. He had been ill in much the same way seven years previously, while in Paris, and recovered in three months, under MM. Trouseau and Jaccoud. They differed as to whether his disorder was hysterical or epileptic. The disorder had now continued three months. At first he had great pain in the dorsal region of the spine, and great difficulty in defecation. Subsequently he became weak in his legs as high as his knees; the weakness afterwards extended all over him as high as his shoulders, involving his hands also. At present, he stated that he had the same symptoms, except that the bowel had recovered its function; and he had a sense of weight and constant hunger at his stomach. He vomited a little blood a few days before admission. The epigastrium was rather tender. His nerves felt excited; he did not sleep well, and dreamed much. Pulse weak, 84; tongue coated. He could not stand. He could grasp strongly with his left hand, but not at all with his right, which was rigid in a state of semiflexion, and the arm half flexed at the elbow. The right leg was completely extended, rigid at all its joints, including the hip. The foot of this side was curved upon itself, and turned inwards. Sensation was good in the left limbs, but very deficient in the right. The right arm and leg had been as at present during five or six days. He had always a sensation of something dancing before his right eye, like a butterfly. The sphincters acted well. He had threadworms when young, but no other parasite. He had been six months in England, and found that the climate did not suit him. He had studied hard lately, and was mentally fatigued. No posture was easy. He was ordered ten grains of hydrate of chloral in camphor mixture four times a day, ordinary diet, beef-tea and arrowroot, and three ounces of port wine daily. On the 26th, he said that he had slept better than he had done for six months. The sleep produced was much more natural than that procured by the inhalation of ether, chloroform mixture, or opium. Pulse 80, good; temperature 37.4 deg. C. (99.3 F.) in both axillæ. The urine was pale, of specific gravity 1030, without albumen. The limbs were rigid, as before. He had some sensation at the right knee over rather more than the extent of the patella; but below this part, and for some way above, the skin was quite anæsthetic; he did not feel the pricking of a pin. The outer part of the thigh was in the same state; but the upper and internal part was sensitive. The whole of the right side of the body was numb from the median line in front nearly round to the spine; and the numbness continued all the way up to about the level of the thyroid cartilage. There was no sensation in the forearm or hand; but the arm was sensitive at its anterior and internal part, though two days previously it was devoid of feeling as high up as the shoulder. The tongue was put out quite straight; there was no distortion of the face.

Jan. 27th. His arm had now so far recovered that he had written four lines (of his own composition) in quite legible characters. He felt the prick of a pin in his fingers; but the forearm and back of the hand were insensible. The leg was in the same state.

Jan. 28th. About six o'clock last evening, he had a convulsive attack. He was stiff all over; all his limbs were rigid; his head was drawn back, and his neck prominent. He was quite unconscious. The fit continued about ten minutes; and he recovered consciousness almost directly it had ceased, but slept afterwards. Both legs were equally stiff during the attack; but the left soon became normal, the right remaining stiff. This attack was the first he had had for seven years. He felt extremely weak this morning, and much more (unnaturally) hungry than yesterday. The temperature of the right knee was 98.2 deg.; of the left, 100 deg.; of the right first cleft of the toes, 85 deg.; of the left, 91 deg.

Jan. 29th. He had another similar attack last evening; the arm was rather stiffer to-day. He felt altogether in a state of malaise—"dans un très mauvais humeur," as he expressed it. He was ordered ten grains of bromide of potassium in camphor mixture every three hours. The chloral was omitted.

Jan. 31st. He had no more fits. Some motion was returning in the leg; he could move the arm a little, but could not bring his hand to his mouth. The leg was still insensible. The pupils were large. He had not slept since he left off the chloral.

Feb. 3rd. He was improving. The leg was still rigid; he had no power of flexion at the knee; he could walk fairly well, but dragged his leg, trailing the foot along the ground. The toes of this foot were apt to turn inwards, as well as the foot itself, so that he walked then on the outer edge. He felt well in himself—much better. I injected one-fiftieth of a grain of atropine subcutaneously.

Feb. 5th. No benefit had resulted from the atropine; it caused marked physiological effects, but did not lessen the rigidity in the least. He could walk better; but his foot still was curved inwards when he walked. In about an hour after I had made this note, I saw him in a severe epileptic attack, in which all his limbs were quite rigid, and he ground his teeth. The dose of bromide of potassium was increased to thirty grains every three hours, and a warm bath ordered.

Feb. 9th. He had no more fits; but, in consequence of a *fracas* with one of the officials, he wished to go out.

Both these were undoubtedly cases of epilepsy; yet they were not ordinary cases. In the first, the attacks were often much more prolonged than usual; and indeed it was not always easy to distinguish between the paroxysmal and interparoxysmal disorders. In the attack of March 16th there was prolonged general tremor, but the patient did not lose consciousness at all. So, again, on April 5th, the disorder seems to have consisted solely of giddiness, though it lasted an hour and a half. I do not see how we can refuse to regard these as manifestations of epilepsy, quite as much as the more complete and regular fits which he had previously had. Indeed, if they occurred in a patient who had never had a complete attack, we should feel doubtful as to their exact nature; but in the case before us I can take no other view than that which I have above expressed. And this brings me to a point which I wish to notice on the present occasion; viz., the liability of epilepsy to occur in modes which vary so much from the accepted types, that an inexperienced observer might very easily mistake such cases for instances of some other disease. Unconsciousness, of longer or shorter duration, is one of the most constant phenomena of epilepsy; but it seems quite established that it is not invariably present. Dr. Russell Reynolds, who is not at all inclined to laxity in marking off epilepsy from other disorders, admits among the four modes of attack cases of convulsion having the general form of an ordinary epileptic paroxysm, but in which there is either no loss of consciousness or such slight obscuration as to be at first completely denied by the patient. Such paroxysms may occur at intervals for many years. Dr. Beigel tells us that, out of one hundred and fifty-three cases in which he obtained reliable information, one hundred and three had loss of consciousness and general convulsion; thirty had the former without the latter; six had the same with partial convulsion; four had no loss of consciousness, but general convulsion; seven, no loss of consciousness, and no general convulsion; two, no unconsciousness, but partial convulsion; and one, loss of consciousness, and sometimes general, sometimes partial, convulsion. Trousseau affirmed that nothing was more irregular than epilepsy in its manifestations, its course, and the frequency of its attacks, either in the same or in different patients. He has had large opportunities of noticing, in his consulting practice, how often the best informed and most enlightened physicians fail to recognise even well marked and grave cases of epileptic disorder, especially of the vertiginous kind (*petit mal*).

Our second case affords a curious example of one-sided spasm occurring in connexion with epilepsy, and, as I believe, as one of its manifestations. Both pathemata, the tonic spasm of arm and leg, and the epileptic paroxysms, occurred twice at the same periods, which were separated by an interval of seven years. This is certainly strong evidence of their homogeneity, if I may use the term—of their being both essentially dependent on the same fundamental morbid state. There seems, indeed, to be a wide difference between a sudden violent explosion of convulsion and insensibility occurring at uncertain intervals, and continuous unrelaxing spasm without loss of consciousness; yet it is most certain that the very same causes—viz., irritation of the cerebral membranes from an endostosis, or a tænia in the intestines—may give rise either to continuous giddiness without any convulsion, or to epileptic paroxysms. And, in some cases of epilepsy, giddiness of considerable duration is a frequent interparoxysmal phenomenon. Again, the same organic lesion may produce a more or less continuous or a strictly periodic neuralgia, the difference of effect being evidently due to some peculiarity in the working of the individual nervous systems. There seems to me, therefore, no great difficulty in comprehending that the same cause might generate both the permanent spasm and the temporary convulsion. Such a case as the one we are reviewing is, however, but an exaggerated instance of the common experience that the interparoxysmal period is occupied by more or less indication of derangement of nervous functions.

The anæsthesia was a remarkable symptom, evidently co-related to

the spasm, with which it was in great measure coterminous. I do not know how to explain it, any more than I do the spasm; for of course it is no explanation to say that they both depend on some peculiar state of the motor nervous centres. But it is worth notice, that the two disorders—viz., paralysis and spasm—are constantly found associated together, evidently depending on the same morbid condition; so that it would be quite incorrect to regard them, as you might be inclined to do, as opposites. On account of the spasm being confined to one side—the right—some would be inclined to place the seat of the disorder in the left corpus striatum. On this view, the spasm would be the analogue of the hemiplegic paralysis which occasionally is a sequel of the epileptic paroxysms, and which I suppose to have its seat in the same ganglion. However, as there is no record of any fit having preceded the tonic spasm, and as the latter remained unaffected by the subsequent fits, it must rather be regarded as an independent phenomenon than as a sequel.

The vaso-motor nerves of the right lower limb do not seem to have been involved in the spasm, inasmuch as the temperature of the limb was quite normal. It was curious, however, that the corresponding region of the left was nearly two degrees Fahr. warmer; though, as this statement rests on a single observation, and as it is rather contradicted by a previous one showing that the temperature in both axillæ was only 99.3 deg., I admit that it needs confirmation.

It may well be asked, What was the cause of disorder in this case? And to this question I fear we cannot give a very precise reply. One thing may be affirmed, I am pretty sure; viz., that there was no organic lesion or coarse disease of the nervous centres. Had any such existed, it is tolerably certain that the malady would not have subsided and remained in abeyance for so long a period as seven years. Rather, we may be sure that the symptoms would have become intensified, even if a fatal termination had not ensued. To a certain extent, the recurrence of disorder may be explained by the fact that the patient had been greatly over-exerting his mental faculties for some considerable time before he became ill. The same overstrain has been known to cause delirium, and I have known it produce epileptic attacks; it is, therefore, not unreasonable to regard it as the motor of the disorder in our case. Here, however, as in many other instances, we are obliged to fall back upon some inscrutable peculiarity of the nervous system, which makes the result of the acting of the same cause so different in different individuals. So far, it may be said, the hemispheres in this patient were affected, that he suffered from sleeplessness to a great degree. Translating this into pathological language, we may say that the cerebral exhaustion assumed the form of morbid excitability, as is so commonly the case; and this state did not confine itself to the originally affected centres, but diffused itself to the motor, and in a modified form to the sensory.

The peculiar hunger felt by our patient (which he actually asked me to give him some medicine to quell) was doubtless not a genuine desire for food. I should interpret it as a morbid sensation referred to the gastric nerves, and probably depending on some affection of the solar plexus analogous to that which prevailed in the superior centres.

The treatment indicated in both these cases was evidently calmate and restorative, and was pretty well fulfilled by the remedies we employed. The bromide of potassium answered very well in the first case, but was less decidedly efficacious than I had hoped it would be in the second. I have not yet as much experience of its action in the various kinds of spasm as I hope soon to obtain; but it has not appeared to me so efficacious as I had hoped it would be. This is the experience of others also with regard to this drug in cases of chorea. Of the chloral I need only say that it acted admirably as an hypnotic, as it has in many other cases, but did not materially influence the spasm.

WHAT IS A DIURETIC?*

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A DIURETIC is an agent that increases the flow of urine, is the ordinary answer; and a very incomplete one it is. What do we mean by increasing the flow of urine? Do we mean an increase in its mere bulk—that is, a mere increase of elimination of water—or do we mean an increase of all, or a great part of, the constituents of urine? Certainly we ought to mean the latter, I think. The one action depends to a great extent on the pressure of the circulation merely; the other is a special property of the epithelial cells lining the tubuli uriniferi. It may be desirable to consider each action separately; firstly, of the pres-

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