twenty-three cubic inches; its specific gravity 1.019. *Abdomen.*—A quantity of pale yellow clear fluid was found in the peritoneal cavity. The stomach contained a black, thick, tenacious fluid, resembling a mixture of black-lead and coffee-grounds, and with a peculiar indescribable odour, suggestive of Worcestershire sauce. The mucous membrane was of a greyish cream-colour, soft, and quite devoid of vascularity and all appearance of erosion. It was smooth and felt somewhat thick, and presented a few small ill-defined dark spots. The intestines externally appeared perfectly healthy. They contained about a pint of fluid similar to that in the stomach. The mucous membrane of the whole tract was pale, soft, and devoid of vascularity. No evidence existed of congestion or inflammation. The liver was small, and did not project below the costal cartilages; its upper surface was extensively adherent to the diaphragm, and, on removal, was seen to be much roughened. Its posterior aspect presented some yellow orange-coloured patches, and others of an ecchymotic appearance were observed in the right lobe, anteriorly and inferiorly. The whole organ felt very soft and flexible. On section, the lobular structure of the viscus was very indistinct; the colour generally was a pale brown, with ill-defined patches of yellow orange. The gall-bladder was collapsed, and contained a small quantity of pale green tenacious fluid. The dimensions of the liver were 9.7 by 2.4 by 7 inches; the weight 2.7 lbs. The microscope revealed extreme fatty transformation of the whole organ; scarcely any hepatic cell-structure was to be seen. In the square hundredth part of an inch might be counted two hundred and fifty oil-globules, varying in size from the 1-1000th to the 1-5000th of an inch in diameter. The spleen was small; its substance was firm; normal on section. The kidneys were normal in size, and the calyces of both presented purplish ecchymotic patches, exactly resembling those noticed on the liver and in the heart.

Such were the clinical and pathological features of this case, which would have passed as one of "acute atrophy of the liver" had not rumours reached the authorities, just before the *post mortem* examination was made, that B. was supposed to have taken poison. In consequence, a coroner's inquest was held, and the following particulars were elicited. B. had of late been in a dejected state of mind, owing to a want of success in a love affair; he had been seen in possession of rat-poison (phosphorus paste) on December 11th, and, on that morning, he suddenly became ill, restless, excited, and wild looking, and said "he had done it"; although, when pressed, he would not tell what was the matter. A fellow-servant, fancying he had taken poison, administered a mustard emetic; but it was not until the following day (the 12th) that medical aid was sought, and then without any hint whatever being given as to the occurrences above mentioned. The county analyst reported that, in thirteen ounces of the contents of the small intestines, he estimated the presence of 2.8 grains of phosphorus, besides which there was a small quantity in the contents of the stomach. He found, moreover, that nearly the whole of the phosphorus obtained was present in the form of phosphorus acid, which accounted for the absence of luminosity.

REMARKS.—It will be noticed that the symptoms and pathological appearances observed in this case correspond in a most striking manner with those of "acute atrophy of the liver", as detailed by Murchison in the last edition of his work. In the absence of all suspicion, inquiry was only accidentally directed into the right channel, and the real nature of the case brought to light. I am tempted to publish it on account of its rarity and importance, corroborating, as it does, Wagner's opinion, quoted by Murchison, that many of the recorded instances of acute atrophy were probably cases of acute phosphorus-poisoning.

ON SOME POINTS IN THE CLINICAL HISTORY OF CHOREA.*

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[Concluded from page 449 of last number.]

III.—THE DISTRIBUTION OF HEMICHOREA.

HEMICHOREA is sometimes strictly unilateral in its distribution, affecting conspicuously the arm and the leg. Not unfrequently, however, the condition of the two legs is the same, when one arm only is affected.

1. The choreic movements may be confined to one arm, both legs being free from movement, although that in the arm is violent.

2. When the chorea affects considerably one arm and leg, although the other arm is quite free from movement, it will generally be found,

on close examination, that there is some degree of affection of the other leg.

3. Occasionally the affection of the other leg is as great as that of the leg of the side on which the arm is affected.

The distribution of the chorea may thus be unilateral in the arms, bilateral in the legs. No doubt the explanation is to be found in the anatomical relations which underlie the common joint action of the legs and separate use of the arms. The same thing may be occasionally noted in unilateral convulsions, in which, as in one case I have recorded (*Lancet*, Nov. 6th, 1875), the convulsions were the result of an unilateral meningeal hæmorrhage: the fits affected one arm and both legs equally, leaving the other arm free. This distribution of the spasm in hemichorea is thus quite in harmony with an unilateral pathological cause.

IV.—THE RELATION OF CHOREA TO CONVULSIVE SEIZURES.

If chorea depend on an unstable condition of the nerve-centres, it is not surprising to find that the affection is occasionally associated with other diseases which we ascribe to a similar instability of nerve-cells, such as hysterical and epileptoid seizures of various kinds, and even genuine epilepsy. The association is probably, in some cases, that of a common origin, in imperfect development or nutrition of the nerve-centres; but, in others, it would appear as though the morbid process, constituting the one affection, entailed an instability of tissue, which resulted in the other disorder.

The following cases illustrate the association, and one or two of them are of sufficient importance to deserve detailed narration. This applies especially to the first case, in which we have the choreoid movements, when most intense, assuming a convulsive character.

CASE IX. Many Attacks of Choreæ: Mitral Constriction: During Choreæ, daily attacks of Loss of Consciousness, deviation of Head, and spasm in Limbs, tonic and choreoid.—Alice P., aged 15, was admitted into the National Hospital for Paralysis and Epilepsy, in October 1875, with general chorea, very violent in character. She had had repeated attacks of chorea during the preceding seven years, for which she had been in several hospitals. She had a very loud and marked mitral presystolic murmur. At first, the choreic movements were greater on the left side than on the right. The attack lasted four months, and then gradually lessened, almost, but not quite, ceasing for several months; and then increased so that, in October 1876, she was readmitted. There was then much mental obtuseness; the look was dull and heavy. When she was at rest in bed, the spasm was slight; on movement, it became extreme and general. The speech was difficult. The tongue was protruded and withdrawn slowly. Almost every day after her admission, she had a peculiar convulsive seizure. One of these I saw, and several were witnessed by Dr. Sturge, then resident medical officer, who made some careful notes of their character. The following is his account of one of these attacks. "Whilst I was listening to the heart, and just after she had spoken to me, she gave a sort of groan, became flushed and somewhat cyanotic; her head was turned to the right, the left sterno-mastoid being strongly contracted, and the eyes deviated to the right. There was a good deal of general movement of the limbs, at first choreic rather than convulsive. Thinking she was in pain, I asked her what was the matter, but got no answer, and she was apparently unconscious. The movements increased, and she had some degree of opisthotonos for a short time, and the character of the movements became more convulsive. The condition lasted three or four minutes and gradually went off, leaving her in a dull heavy state, and with more choreic movement than before the fit."

In another fit, which was watched from the commencement, the head again turned to the right. There was no initial pallor of face; but the countenance became more suffused than before the fit. The right arm and leg were affected with greatly increased choreic movements, while the left arm was stretched out rigidly from the side with the fingers extended; the thumb extended and drawn under the fingers. The rigidity was cataleptic in character; for the arm remained rigid wherever it was placed. The fit lasted about two minutes, and left the patient very stupid and dull. After she came to herself, the left arm was weaker than before.

A third fit, witnessed a day or two afterwards, differed in some respects from the others, although of the same general character. She was at first apparently more or less unconscious, without any movement. This condition lasted for half a minute, and then convulsion set in. The head was drawn violently to the right; the eyes remained open, the pupils rather dilated. There was some arching of the back, and tonic spasm in both arms and hands, that in the flexors preponderating, so that the elbow, wrist, and finger-joints were all strongly flexed and the arm was drawn up almost to a level with the shoulders. After a few seconds, the right arm became affected with a sort of choreic movement, the wrist and fingers remaining flexed. The left arm became

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more flaccid, but remained motionless, while the right arm was affected with this movement. The legs were not specially noticed, but there was certainly not much movement in them. The jaws all the time were firmly closed. The whole condition lasted about two minutes, and she was left dull and stupid. The left arm did not seem weaker after the attack. A fortnight later, it was found that her left arm was weak, being helpless, although by great effort she could move it a little. Both legs were weak, but the left was weaker than the right.

Fits similar to these occurred daily for three weeks. Under hypodermic injection of morphia, the fits ceased, and the left arm became stronger, but the choreic movements in it were more considerable. She improved for a time, and then relapsed and remained stationary until placed on glycerine (half an ounce three times daily), which was followed by a very rapid and immediate improvement up to a certain point. Afterwards, with country air and zinc, all choreic movements ceased, and she has remained free from the disease: the mitral presystolic murmur persisting.

CASE X. *A Single Epileptic Fit, succeeded a month afterwards by Hemichorea.*—A lad aged 17 lately came under treatment for slight but characteristic hemichorea. The affection was of two months' duration, and was first discovered by objects being dropped in consequence of a "kind of catch in the hand". There was only a slight occasional twitch in the hand and on the right side of the face, but an attempt at movement was accompanied by characteristic choreic inco-ordination. The right hand was weaker than the left. (Dynamometer—right 31, left 41 *kilogrammes*). He had never had rheumatic fever, and there was no cardiac murmur. His mother said that about three or four years ago he had an illness, accompanied by twitchings, and occasioned by fright. Three months before the patient came under observation, and one month before the commencement of the hemichorea, he had an epileptic fit, which seemed, as far as could be ascertained, to have been general. He fell without warning, and during the fit he bit his tongue.

CASE XI. *Left-sided Fits for six months, beginning in Foot: Slight Attack of General Chorea.*—Eliza T., aged 22, had her first fit six months before she came under treatment. The catamenia had never appeared. She had had no food for two days before the first fit. It was the same in character as subsequent attacks. Each began with a sensation in the left foot; the left leg was then drawn up, the knee being flexed, with a series of jerks; and the foot drawn up over the other leg. The sensation then seemed to pass up her side to the top of the head, and then back again to her heart, where it caused a sort of pain, with which she lost consciousness and fell backwards. What happened during the further progress of the fit could not be ascertained; apparently some time elapsed before consciousness was recovered, and, on coming to herself, she invariably asked the time. Two or three such fits had occurred weekly. For a few weeks before admission, she had noticed a numb feeling in the left arm, and when holding an object the grasp would suddenly relax for a moment, and during about two weeks there had been involuntary movements in the arms. On admission, there were well marked choreic movements of the hands and head, slight but quite characteristic: spontaneous. There was very little inco-ordination on voluntary movement. There was no cardiac murmur. After her admission, the chorea gradually ceased in the course of six weeks and she had no fits, although she sometimes had a sensation, such as preceded a fit, commencing in the foot and passing up to the head. These sensations continued for some weeks after her discharge; but she had no severe fit during three months in which she continued to attend as an out-patient.

CASE XII. *Fits from Infancy, chiefly left-sided: Chorea at Eleven, chiefly affecting Left Side.*—A girl aged 16 came under treatment for epilepsy, which had existed from infancy. The first attack occurred at six months of age, during sleep. No history of rickets could be elicited. The attacks recurred at first every three months, afterwards more frequently. When eleven years of age, she had an attack of chorea, of three months' duration, succeeding an attack of some symptoms of rheumatic fever. The chorea began in the left side, and afterwards spread to the right, but throughout it was the more severe on the left side. During the chorea she had no fits, but they recommenced immediately after the cessation of the chorea. The fits were preceded by no warning; consciousness was lost. The left hand was clenched and put out, the right being kept still. The mouth was drawn towards the left. There was usually little or no jerking, but sometimes there was a good deal, and it was then confined to the left side. There was no evidence of heart-disease.

CASE XIII. *Chorea, worse in the Right Side, followed immediately by Right-sided Convulsions.*—George C., aged 12, presented himself with a history of a first attack of chorea, which had commenced six weeks before and had lasted a month, leaving, however, considerable weakness of the legs, that of the right being the greater, and some weakness

of the right arm. During the fortnight after the cessation of the chorea, he had had several right-sided convulsive attacks, with loss of consciousness. Under treatment, the fits became much less frequent, but did not cease; the muscular weakness, however, disappeared. The patient had no cardiac murmur, but the action of the heart was irregular.

CASE XIV. *Chorea, followed by Fits, beginning in Left Foot; Mitral Constriction: Subsequently an Attack of Mania.*—Kate B., aged 30, single, was admitted into the Hospital for Paralysis and Epilepsy, in January 1872, on account of convulsive seizures. A brother had died, aged 40, with what was probably general paralysis of the insane. A sister had an attack of chorea, and died four or five weeks afterwards from heart-disease. No relations had suffered from rheumatic fever. The patient herself had never suffered from rheumatic or scarlet fever. At thirteen years of age, she had a severe attack of chorea, which came on gradually without assignable cause, and lasted nine months. She believed that it affected both sides equally. Six months after the chorea, she had a fit; a second fit, three months after the first; and they had recurred at intervals of two or three months. The first and succeeding attacks were described by her as being of the same character. Each began with a sensation in the great toe of the left foot; this did not pass to the other toes, but ascended up the foot and leg to the trunk; as it was passing up the trunk, it commenced in the left forefinger. It did not go to the other fingers, but passed up the arm, and thence to the left side of the tongue, in which she had a sensation of tinglings. The sensation was accompanied by some movement of the part: a slow drawing up. She then lost consciousness, and could give no account of the subsequent phenomena. Her tongue, however, was often bitten, so it might be assumed there was severe clonic spasm. Sometimes she had a similar sensation in the right hand, passing up the arm to the side of the tongue, but never to the leg; and this sensation was never followed by loss of consciousness or any further convulsive manifestation. When she had a fit commencing in the left foot, the sensation never passed to the right side. Whilst in the hospital, she had several epileptiform fits, of which no detailed account could be obtained, and also several peculiar attacks of co-ordinated spasm, one or two of which I witnessed. They began with the same sensation as above described, and, when consciousness was lost, the eyes were turned up and to the left; the arms were not affected, but the legs were rigid and drawn up, and she tended to turn on to her back. Subsequently, the legs were drawn up and then pushed down regularly, so that, if she were on the floor, she would work, head foremost, from one side of the room to the other. The sensation preceding these attacks was sligher than that which preceded the severe seizures, and was accompanied by an unpleasant feeling at the back of the head and at the heart. The heart's apex was outside the left nipple, the impulse heaving and diffused, and at the apex was a loud rough, rather long, presystolic murmur, terminated by the first sound. The maximum point was the nipple-line; it was conducted in and out; heard on the mid axilla, but not at the angle of the scapula, where the heart-sounds were clear. The second sound was reduplicated; a brief interval occurred after the second part of the second sound, and before the presystolic murmur. The fits continued in spite of treatment, although sligher.

Nine months later, while taking ten minims of tincture of digitalis three times a day, her pulse sank to 48, and some mental symptoms came on. On omitting the digitalis, the pulse rose in twenty-four hours to 72, but the mental symptoms continued. She fancied persons were in the room speaking to her and she answered them, and asserted that she was the Holy Ghost; and under that delusion manifested some tendency to violence, so that it was necessary to send her to an asylum. She recovered after some months, and has since continued in nearly the same state, with occasional fits and the same evidence of organic heart-disease. The presystolic murmur, however, has been variable; sometimes not to be heard, sometimes distinct, as is not uncommon in cases of mitral constriction. There has been at no time albumen in the urine.

CASE XV. *Severe General Chorea: Convulsive Seizures, commencing two years after the Cessation of the Chorea.*—The patient was a married woman, thirty-two years of age. As far as could be ascertained, there was no family predisposition to nervous disease. She had had good health in early life. At nineteen years of age, she had an attack of chorea, occasioned by a fright, and sufficiently severe to cause her admission into a general hospital. The attack was a long one, lasting two years. Two years after the cessation of the chorea, and after some trouble, she had her first convulsive seizure. No fuller account of it could be obtained than that she was stiff and screamed, and bit her tongue. The fits continued from that time; and she said that of late, when a fit was coming on, objects looked strange to her and she saw sparks before her eyes, and sometimes an appearance as of smoke or

of "all kinds of colours". She was admitted into the hospital, and there had attacks in which, with apparent loss of consciousness, there was general tonic rigidity, but no clonic convulsion. Some of the attacks lasted several hours; others were shorter in duration, and seemed to be excited by a severe cough which troubled her.

CASE XVI. *Chorea; followed some years later by Hystero-epileptic Seizures.*—Ada S., when five years of age, was under treatment, at the Hospital for Paralysis and Epilepsy, for a well marked attack of chorea, from which she recovered, apparently completely. Three years after the chorea, when nine years of age, she became subject to "fits". These attacks commenced with jerking of the head and loss of power of speech for several hours. She was able during this time to hear quite well, but was unable to speak. Then she would suddenly lose consciousness, the jaws "champed", a noise was made in the throat, and "foam" collected in the mouth, almost choking her. There was no general convulsion. After the attack, she generally slept for some time. At one time, these attacks recurred regularly every three weeks. Under treatment, the fits became less frequent and slighter, but there was much jerking of the head after waking in the morning, lasting an hour or more. In the slighter fits she would suddenly fall, be unable to speak for a moment, and rigid; then she would scream, clutch with her hands, and foam at the mouth. There was no cardiac murmur.

CASE XVII. *Chorea in Early Life: Epilepsy in Middle Life.*—John L., aged 50. No history of family neuroses. At ten years of age, he had an attack of chorea; but he had no subsequent illness until forty years of age, when he had a fit, and since that time has had four or five fits a year, always occurring at night during sleep. He does not wake before the fit, but passes into severe clonic spasm, in which he bites his tongue. His heart is healthy to physical examination, but intermits occasionally, not regularly.

CASE XVIII. *Chorea in Early Life: Epilepsy Late in Life.*—A man aged 58 came under treatment for epilepsy of three years' duration. His family history was bad. His father had been intemperate, and his brother died from chronic alcoholic delirium. At sixteen years of age, he had an attack of chorea, of which he could only remember that it was a bad attack and affected both sides. When thirty-two, he had an attack of rheumatic fever, which had left no obvious valvular disease of heart. The commencement of the fits was attributed to insufficient food. They occurred frequently, three or four a week, both day and night, during waking and sleeping, without warning. Consciousness was lost in them, and his tongue was bitten.

These cases illustrate the frequent association of chorea and epilepsy, and they illustrate also several of the ways in which that association is produced. The possibility of a close connection between the two forms of spasmodic disorder is shown in the first case, in which paroxysmal convulsive seizures were part of a severe attack of chorea. In them, although the spasm was in part that of chorea, so intense as to assume a convulsive character, there was also loss of consciousness, and spasm of a tonic character preceding and accompanying the choreoid convulsion. The significance of this case is that the convulsion must be ascribed to the same morbid process as that which was the cause of the chorea.

In the next three cases, Cases X, XI, and XII, we have instances of chorea succeeding epileptoid seizures. In one, a single general convulsion occurred a month before hemichorea; in the other, unilateral fits for six months were succeeded by an attack of general chorea. In these two cases, then, there was no relation to be traced between the distribution of the chorea and that of the convulsion. In Case XII, however, epileptic attacks occurred during almost the whole of life, and were interrupted by an attack of chorea. Both chorea and convulsions agreed in their distribution, and were most severe on the left side. No significance can be attached to the cessation of the fits during the chorea, since it is common for attacks to cease during the course of any acute disease.

In the remaining cases, convulsive attacks succeeded chorea. In Case XIII, chorea, worse on the right side, was succeeded immediately by right-sided convulsions; and it is, therefore, highly probable that the two were the expression of the same morbid change. In Case XIV, permanent epilepsy of marked character succeeded, at intervals of six months, an attack of chorea; and in Case XV, convulsive seizures commenced two years after the termination of an attack of general chorea. In Case XVI, a similar, although rather more distant relationship, was to be observed; while in the last two cases, the interval between the chorea and the epilepsy was so long that probably the only significance is that of a common predisposition.

Several of these cases presented evidence of organic heart-disease; and it may be urged that in this there is a common condition, which

may be a cause of the two sets of symptoms. Heart-disease is common in chorea, and I have found that it is sufficiently frequent in epilepsy to make it probable that there is a causal connection between the two conditions. But such an explanation leaves unexplained the several cases in which no heart-disease could be discovered, and the remarkable association in several of the cases between the distribution of the chorea and the convulsive seizures, which point unmistakably to the origin of the two diseases in a common pathological state of the nerve-centres.

TWO UNCOMMON FORMS OF DISLOCATION.*

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OF the two cases I am about to bring before your notice this evening, one is a dislocation of the jaw occurring during an attack of hysteria; the other is a dislocation of the sternal end of the clavicle upwards. The first is interesting on account of its cause; the second, on account of the rarity of the event.

I was called to see a woman aged 30, said to be in a fit. On arriving at the house, I found her in an hysterical attack, and ascertained that she had received news of a severe family trouble a few hours previously. A curious symptom in the case was, that she violently worked the jaw, and would persist in doing so despite being sharply spoken to and treated freely with cold water. Whilst I was observing her, the jaw suddenly became fixed widely open and displaced obliquely towards the right side. She instantly began to scream violently, and applied her hand to the injured part. I need scarcely say that the hysteria vanished as if by magic. I replaced the jaw in the usual manner, and applied a four-tailed bandage. After being put to bed, she had a return of the paroxysms, and again worked the jaw; but this time the bandage prevented displacement. The next day, beyond a considerable degree of stiffness, nothing abnormal was found. I then ascertained that she had never had dislocation of the jaw on any previous occasion. My reason for recording the case is, that I find no mention made of any similar one either in Hamilton on *Fractures and Dislocations* or in Holmes's, Erichsen's, or Bryant's works on surgery.

The history of the second case is as follows. I was called on September 27th, 1877, to see a grammar-school boy aged 15; the messenger telling me that he had put his shoulder out, having fallen undermost in a scrimmage at football. On arrival, I found him leaning towards the left side and supporting that arm with his right hand, any change of position giving great pain. On stripping the chest, the first sign that attracted my attention was a marked flattening of the left infraclavicular region. I then noticed a depression of the same shoulder; a very distinct prominence in front of the trachea just above the sternum; an absence of the natural projection of the left sterno-clavicular articulation, its place being taken by a depression in which could be felt the empty sternal socket. The tendon of the left sternomastoid was stretched tensely like the string of a bow, and the distance between the shoulder-tip and the middle line was an inch less on the affected side than on the sound one. There was no dyspnoea, and an entire absence of crepitus. My diagnosis was dislocation of the sternal end of the clavicle upwards, as the only accidents which might have simulated it were separation of the epiphysis and fracture; the latter being negatived by the absence of crepitus, and the former by the fact that ossification does not take place in the epiphysis till the eighteenth or twentieth year. Reduction was easily effected by drawing the shoulders backwards and raising the arm. I tied a handkerchief round each arm near the shoulder, and looped them together firmly behind; placed a pad in the axilla; pressed the elbow inwards by means of a bandage round the chest, enclosing the arm; and supported the elbow and forearm in a sling; after which the symmetrical appearance of the chest returned. In the after-treatment, there was a great tendency for the sternal end of the clavicle to slip upwards, as the boy, being unusually active, always contrived to romp about and loosen the bandages as soon as his attendant's back was turned. Although the appliances were continued for three weeks, and a figure-of-eight bandage for a fortnight longer, yet at the end of that time the sternal end of the clavicle remained about half an inch above its usual level; but the functions of the limb seemed to be in no way impaired. The only cases I can find on record of a similar nature are four quoted by Malgaigne, two by Bryant, one by Dr. Rochester of Buffalo, and one by Hamilton.

* Read before the Leeds and West Riding Medico-Chirurgical Society.