3. In a case I saw with Dr. Messer of Helensburgh, a feeble gentleman, who had lived much abroad and was suffering from malignant disease of the bowel, had, a year before his fatal attack, suffered from complete obstruction for many days; and finally passed, with horrible pain, two very hard black and large masses (he had been taking iron at the time), after which his bowels acted freely and largely.

I have only once known obstruction arise apparently from *gall-stones*; and the case is related, because it differs in an essential point from those recorded of occlusion from such a cause. Usually, it is one large gall-stone which has ulcerated its way out of the gall-bladder into the intestine; but here it seemed to be due to the rolling up of many common gall-stones into a ball.

4. A farmer's wife, aged 63, came to Glasgow from Perthshire to visit a son. She had suffered for years from "attacks of gall-stones", and had only recently recovered from a prolonged and severe seizure—to aid her recovery from which had been one object of her coming south. During the first week she was in town, she had one scanty motion; but for eight days before I was asked to see her, she had had no movement of her bowels. When I visited her, she had some pain down the right side of her abdomen and across the umbilicus. Pressure augmented this pain. There was some fullness of the belly. She was drowsy, and had some hiccup. She had rejected her food for the first time the night before I saw her, and, as she had continued to do this, her friends became alarmed and sought my aid. She supposed that she was about to suffer an attack of her old enemy, and had taken opium freely to relieve the pain. She had also taken large doses of various purgatives without medical advice. I could find nothing in the abdomen worthy of note, except the pain on pressure, the distension, and slight tympanites. A large enema passed easily and removed very little material from the bowel, though its use gave her a feeling of relief. Some flatus was occasionally passed. In the evening, the drowsiness having disappeared and the pain and restlessness being considerable, a large poultice was put over the belly, morphia administered subcutaneously, and milk and ice in small quantities allowed. Beef-tea was twice thrown into the bowel during the night. Next day, there was little change. The pain was less, but the distension was greater and she was very sick and restless. Fifteen grains of calomel were given and retained, and at night (no motion having occurred) ten grains more were administered. Her pulse remained good and her temperature nearly normal. She had rejected milk several times, but had no abiding retching. The urine was freely secreted and was natural. Enemata of beef-tea were repeatedly employed, and she had slept at intervals. About four in the morning, suddenly, "as if something had broken inside", which startled her greatly, a free motion took place in bed, followed rapidly by three others. The fæces passed were very foetid, and in the cloth containing the second motion a hard dark mass, said to have been as large as two walnuts, was passed, which was separated and thrown into water. This mass was broken up when I saw it in the morning, and from it sixteen ordinary gall-stones were taken. I had no means of accurately estimating the size of the mass before it was disintegrated; but its dimensions must have been about that stated from the description given me. Several other biliary calculi were got in subsequent motions, but no mass such as that spoken of. The patient made a good, though a slow, recovery.

5. All the unequivocal cases of *invagination* I have seen have been in children. One of the preparations on the table was taken from the body of a girl, aged 12, who was admitted into the Royal Infirmary in 1869, after six weeks' entire occlusion of the gut. The mass you see (measuring 6½" in length) projected from the anus, and was in a sloughing condition. It was removed. Her ailment had been apparently caused by a fall from a height—at least the protrusion appeared immediately after such an accident. On admission into hospital, she was much exhausted and emaciated by pain, sleeplessness, and want of food. Her expression was most agonising, and her pulse very rapid and thready. She had purgatives administered by the mouth and by injection very many times before coming into the house; and everything had been done to torture her and make her condition more hopeless. Constipation had been complete from the first, and retching almost constant. The vomited matter was stercoraceous on admission. The abdomen was distended and painful, and a firm broad band could be felt extending across the lower part of her belly. This was dull on percussion. The large mass which projected from the anus was hard and solid to the touch, and firmly fixed. A bougie passed through it for a considerable way, and it was semi-gangrenous. By careful nursing, and throwing as much nutrient fluid as possible up what appeared to be the channel of the bowel, her condition amended, and for two days her life was preserved, but she finally sank from sheer exhaustion. The movements of her bowels had been at times very evident through her attenuated abdominal parietes. After death, the greater portion of the

small gut was found to have entered the colon and to have been repeatedly invaginated—one part within the other. The combined mass had passed beyond the anus, so that the vermiform appendix and caput coli lay just within the sphincters. There was evidence of general inflammatory action in the abdominal cavity, and the invaginated bowel was intensely congested and at some spots gangrenous.

6. This preparation was taken from a little patient I saw with Dr. Patrick of Dalmarnock Road, and to him I am indebted for the notes I give of the case. The child was aged four years, and had suffered more or less from colic since birth, though it became plump and healthy looking. When lying on its mother's knee, it suddenly started as if in pain and began to strain. Blood was passed in small quantities the first day, and shreds of mucous membrane on the second. I saw the child on the third day, and at once detected the peculiar nipple-like tumour in the rectum. Very little hardness or dullness could be discovered in the abdomen. The child moaned a good deal, and was pale and evidently in distress. It took food greedily, but generally quickly rejected it. The temperature was high and the pulse rapid. No treatment was of any avail, and it died within seventy-two hours of the outset of its complaint. The ileum, as you see, lay within the colon, carrying the valve with it, and a portion had sloughed off and been thrown out within the short time mentioned. The invaginated part was so congested as to look, when it was removed from the body, like a mass of dark blood. It was ascertained that a servant had violently tossed the child in play a day or two before the seizure.

7. For this very admirable specimen of invagination I am indebted to Dr. Hugh Miller. The patient was a male, six months old. He suffered from irritable bowels almost from birth, and required much care as regards feeding. His ailment set in suddenly with pain in the belly, thirst, vomiting, and slight diarrhoea. Pure blood appeared next day, and rapidly exhausted him. Enemata of various kinds were used. No tumour was felt in the belly, but there was some general fullness. The child vomited blood before its death on the evening of the second day. White granular deposits, but no ulcers, were present on the greater part of the lining membrane of the bowel; and the ileum was found (as is here seen) to have passed through the valve and protruded several inches into the colon, but not so low down as the rectum. The free bleeding here and the place of invagination are worthy of remark.

8. In the case of this poor little infant (seven months old), from whose body this preparation was taken by Dr. Samuel Moore (who kindly allows me to show it), the cause appears to have been wilful starvation and neglect. Three invaginations were found, probably established after death. They are easily undone, and there are no signs of congestion or inflammation. The whole body was bloodless, and the weight was but 7¼ lbs.

[To be concluded.]

A CASE OF DISSEMINATED INSULAR SCLEROSIS.*

By EDWARD T. WILSON, M.B. Oxon, F.R.C.P.,
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THE following case is still under treatment. I am, however, induced to bring forward some details concerning it. 1. Because it is a rare form of disease; 2. Because the disease has only recently been described and distinguished; 3. Because the course of the disease is usually so prolonged that many years will probably elapse before its issue.

We owe to Professor Charcot of the Salpêtrière all that is known of this very singular affection, to which he has given the name of "sclérose en plaques". The only notices of it in English, as far as I am aware, are some papers in the *Lancet*, by Dr. Moxon, and some in *Guy's Hospital Reports* for 1875, to which, and to Professor Charcot's admirable volumes (*Leçons sur les Maladies du Système Nerveux*; Paris, 1875), I would refer all those who wish to know more of its pathology and usual course.

A. S., aged 8, was admitted as an in-patient of the Cheltenham General Hospital on April 19th, 1875. Her history, so far as it could be gleaned from the mother, was as follows.

Both parents are healthy, as are also all their near relations, with the exception of an aunt on the father's side, who is decidedly nervous and hysterical. The child was healthy at birth and remained so up to four months of age, when she had whooping-cough very severely. This lasted seven months, and during the attack she had one fit of convulsions, followed by internal strabismus of the left eye. The convulsions

* Read before the Gloucestershire Branch.

soon passed away, not to return; but the strabismus lasted three months before finally disappearing. Having recovered completely, so far as her parents could see, she remained well for one month only; for, at twelve months of age, she received a severe shock and fright by having a dead goose thrown at her. This was followed by a fit of convulsions without any affection of the eyes; there was rigidity of the limbs, and for three or four nights she started in her sleep. There was only one convulsive attack, but it left her feeble and easily knocked up for some time. At five years of age, her mother describes her as having quite got over all her illnesses. Her progress in walking and growth had been satisfactory, and her health continued unbroken (if we may except the passing of a large round worm at four years) until a fortnight before Christmas of last year (1874). She went to school, learned to read and write with facility; indeed, was rather sharp at her lessons. We are thus brought up to the time of her present illness, which began with complaints of giddiness and double vision while she was at school. Her mother says she looked ill, but there was no apparent alteration of the eyes at this time; nor was there any loss of power in the limbs. Within a very few days, however, her left eye was noticed to be turned inwards, and she was in consequence taken to the Branch Dispensary (December 9th, 1874). Worms were suspected; and the administration of santaline and steel revealed the presence of a few ascarides, but nothing more. She continued to walk to and from the dispensary for some six weeks. Her eye resumed its natural position, and at first she improved, taking food readily, even with craving; but the improvement did not last, and, in about a month, tremor came on rather suddenly in the lower limbs, over which she gradually lost control. Occasional pains were complained of at this time over the region of the heart, but they did not last long. On Good Friday, March 26th, 1875, she walked for the last time. Her mother describes her as going to the doctor's house, about half a mile, with great difficulty; walking like a drunken person. Her legs seemed to give way under her, the left being most affected. The back, arms, and head were then quite unaffected, and no pain was complained of. During the next week or two, the tremor gradually increased, involving the trunk and head. Her flesh fell off rapidly, and at the date of her admission, on April 19th, her condition was as follows.

On coming to examine her, I found her lying on her back perfectly motionless, with a somewhat absent expression of countenance. There were double internal strabismus, slight dilatation of the pupils, and double vision. The body was in an extreme state of emaciation, the bones almost coming through the skin. Sensibility was unimpaired; but there was almost complete inability to move the lower limbs, the left side being the most affected. She could move the toes, and bend the foot at the ankle, but there was no power to flex the limbs or to raise them in the bed; the arms also were affected with loss of power so far that she could not raise them, any attempt to do so being accompanied by a jactitatory movement, almost rhythmical in character. At the same time, the finger, if placed fairly in her hand, was squeezed with a force quite unexpected. The tongue was coated, and when protruded oscillated from behind forwards before coming to rest on the lower teeth. On trying to make her sit up, the body, which had to be supported, was so violently jerked with a certain rhythm that she had at once to be laid down; then all was quiet, and tremor ceased. The eyes, which at first seemed to have a fixed stare, were, on her attention being drawn to any object, affected with the horizontal nictitating movement which goes under the name of nystagmus. When asked a question, she replied intelligently, in a clear voice and with the most deliberate utterance, laying emphasis on every syllable alike. The words were generally distinct, but there was an occasional slurring of certain letters. The pulse was feeble, but not otherwise remarkable. The heart-sounds were normal. There was good breathing all over the chest. Her motions and urine were passed under her without warning; and there was constant sickness. Nothing appeared to stay upon her stomach. Some urine that was procured showed no albumen, but gave a cloud with heat (phosphates), readily soluble in dilute acid. She was at once put upon milk and lime-water, which suited her. At the same time an attempt was made to get the secretions and stomach in better order by grey powder, soda, bismuth, and rhubarb. Constipation was a troublesome symptom; but it yielded to simple remedies, such as syrup of senna; under this treatment the sickness improved, and she was able to take more food. Attempts to put her on bark and ammonia, however, at once brought back the sickness, which proved a troublesome symptom during the first six weeks. Her temperature at this time was always low, never rising above 97.5 deg. Fahr. She complained of no pain, her emaciation was extreme, and nothing but the constant watchfulness of the nurse prevented bed-sores. On her better days, she was cheerful and laughed with the children in the ward. She could not, however, be called emotional, and she never cried.

Various medicines were tried in succession as the sickness subsided; iodide of potassium, bromides of potassium and ammonium, turpentine, arsenic, nitro-hydrochloric acid, with bark, etc.; but no marked improvement took place in her general symptoms. Her feet were always cold, and whenever I came to see her I was saluted by a nervous cannonade of flatus, loud enough to attract the attention of the patients in the ward. Thus matters went on until June 23rd, when she was ordered cod-liver oil with syrup of phosphate of iron, a milk-diet, and fish three times a week. From that date, improvement has been slow, but steady and well marked. I regret that, at this critical time, the thermometric observations were omitted; for it is noteworthy that, whereas the temperature up to June 19th was rarely above 97.4 deg. Fahr., on July 14th and to the end of the month it was never less than 98.3 deg. Fahr., and at one time, when phosphorus had been added temporarily to the cod-liver oil, it rose as high as 100 deg. Fahr. There has nearly always been a marked difference between the temperature of the two arm-pits—that in the right being higher in May; latterly, however, the left has on several occasions been the higher, and this has apparently been concomitant with a marked increase in power of the left side, which is now as good, if not better, than the right. It has been mentioned that phosphorus was tried at one time; but as it seemed to cause a little feverishness and there seemed no gain from it, it was discontinued at the end of a fortnight. The constant current was applied on one occasion, but in her nervous state it evidently did more harm than good. Latterly, nitrate of silver has been given, in addition to her regular medicines; but I am not sure that it helped her, and it has been omitted. From the second week in June, when the sickness had entirely ceased and improvement had been uninterrupted but slow, her diet has been milk, with meat and fish on alternate days, and an ounce of wine divided between her meals. I may perhaps shorten a long story, and show the rate of progress, by describing her state at the present time (November 16th, 1875). She lies quietly on her back, slightly propped up with pillows. The expression is vacant, unless specially addressed or amused, when there is a bright intelligent smile. The eyes are generally looking straight forward, but occasionally a slight inward squint is noticed—now of one eye, now of the other; there is no double vision, but the sight is not good; nystagmus is present when the attention is attracted. The tongue is clean and oscillates but slightly on protrusion. The bowels are regular, and she always draws attention to her wants. There is no sickness, and the appetite is good. When the food is placed in her mouth, she chews as slowly and deliberately as she speaks. She is most cheerful and intelligent, always making fun with the other children in the ward or amusing herself with reading a book. She tries also to write and draw, but her hand is still too unsteady to form a single letter. Her attempt to form an "o" results in a series of zig-zags, which never end where they began. On asking her to take my hand, she raises her arm with tolerable ease and steadiness, but invariably misses her aim, owing to the jerky movements which come on just as she attempts to seize it. Her left hand is then carried to the right elbow, and when thus steadied the object is gained. There is no loss of muscular power. She can squeeze firmly with either hand, the left being quite as steady and as strong as the right. If given a doll, and told to hold it up at arm's length, she does so, but with some difficulty, owing to the rhythmic jerking movements. On attracting her attention, however, to some other object the hand is steadied, and remains so until she again looks at it; even placing the hands over the eyes has a tendency to steady the hand. Her legs can be raised high from the bed with a jerky kind of motion. On sitting up, her head droops on to the chest, and it, together with her whole trunk, commences a rhythmic to and fro nodding movement. She can raise her head, and it is steadied at once by placing the hand under the chin. If thoroughly supported with pillows, she can sit in a chair and does so daily; but on trying to stand or walk, her back is bowed forward with the characteristic oscillation, and her feet find no stay on the floor. She can, however, support herself now much better than she could a week or two ago. Her speech remains much as it was on admission, if anything slightly quicker. The pulse is natural; the heart sounds normal, and breathing good over the whole chest. The latest temperature observations show variations from 97.4 to 98 deg. Fahr. Her nervousness is excessive, and on this account she never makes a good exhibition of her powers in the presence of a stranger.

The nature of the case just described cannot for a moment be doubted by any one who has seen the symptoms and who is familiar with M. Charcot's very vivid description of insular sclerosis. It is a typical specimen, so far as it has gone. There are, however, one or two points to which attention may be directed.

Many opportunities have occurred in France, and two under Dr. Moxon, for examining the pathological conditions of brain and spinal cord in advanced stages of insular sclerosis. The morbid changes have

been described with the greatest care, and they would seem identical in kind with those mentioned by Professor Trousseau as characteristic of progressive locomotor ataxy (Trousseau's *Clinical Medicine*, New Sydenham Society's Translation, vol. i, p. 169), with this distinction, that in the latter they are confined to certain portions of the posterior columns of the spinal cord, whereas in insular sclerosis they occur also in the white matter of the brain. The same intimate pathological changes have also been described under the name of military sclerosis in chronic mania, tetanus, leukæmia, and idiocy. (See *St. Bartholomew's Hospital Reports*, vol. viii, on the Morbid Histology of the Spinal Cord, by W. B. Kesteven.)

It would seem, therefore, that the disease we have been considering is at present to be distinguished more clearly by its symptoms than by any very special pathology; and perhaps, such terms as rhythmic or oscillating ataxy may hereafter prove to be more applicable than a designation derived from morbid changes, which may not prove to be distinctive.

Again, attempts have been made to explain the symptoms by the pathology—the rhythmic movements, for instance, by increased resistance to the nerve-current caused by actual loss of nerve-substance; but it is a fair question whether the disease, in its earlier stages, may not be fully developed without any permanent morbid change in the nerve-fibres; whether, in fact, it may not begin as a functional disorder, resulting in local congestion, and eventually in local changes of a more permanent kind. It seems certain that locomotor ataxy, which is most closely allied to it in symptoms and pathology, may exist without any recognisable lesion other than local congestion. Such a supposition would at all events give a more hopeful aspect to the disease in its earlier stages; and it is certainly supported by a case such as I have now described, for it is difficult, if not impossible, in the face of such marked improvement, to believe that those destructive changes of nerve-tissue have been present which are found in long-standing cases of insular sclerosis, and which M. Charcot appears to consider as the very essence of the disease.

The delay which has occurred in the publication of this paper enables me to carry the history of the case a stage further, and to give some particulars of the child's present condition. Since November in last year, when the paper was read, improvement has been steady and uninterrupted. No one who saw the child now would believe that she was the apparently hopeless invalid of even a year ago. About the middle of December, she suddenly called the nurse's attention to the fact that she could read certain small print across the ward, which she had before been unable to distinguish, and since then her eyesight has been very fairly good. In March, she began to stand alone, and to walk a step or two with the help of the nurse's finger, or to climb round the beds and forms: she also tried rough worsted work, but at the expense of many pricks. She is now plump, with firm flesh and a round face; expression still somewhat vacant, unless interested. The eyes have a slight cast, which the nurse assures me she had noticed before her present illness, but are otherwise perfectly normal—no nystagmus, even under excitement. There is no tremor or jerky movement of any kind. The hand is raised steadily, and grasps firmly even small objects. She feeds herself tidily with a spoon, uses her needle very fairly at worsted work, and is decidedly improved in her writing, although she dislikes practising very much. I give a specimen of one of her early attempts at her own name (Annie), and of her writing at the present time (the word "come"). Her left hand was originally most feeble, but she is

now inclined to be left-handed. When sitting, she is quite upright, with the head well up. She is not readily tired, and when with children in the garden and unobserved, she can walk or even run considerable distances without any support; yet when strangers are in the ward, she at once becomes nervous and unsteady in her gait, tottering, and glad to seek the support of the nearest bed or form. She is quick and intelligent, learns as readily by heart as the other children in the ward, and is gradually being taught to make herself generally useful.

Such is the history of this very interesting case up to the present date; and it seems impossible, looking to the improvement already made, to avoid anticipating, with something more than hope, a complete and well established recovery.

SMALL-POX.

By ROBERT BELL, M.D., F.F.P.S.G., etc.,
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ALTHOUGH small-pox does not inspire us with the same dread that it did our forefathers before the days of the immortal Jenner, it is yet, with very good reason, a disease of which all stand in wholesome dread, for still it seems to rise as it were from its very ashes, and sweep in wild bursts of rage over whole tracts of country, attacking large numbers of the population and filling the community with alarm and dismay. It would be difficult to determine what secret causes are at work to render it capable of exerting such baneful influences, when the Vaccination Act has secured the universal introduction of cow-pox into the system of every subject of this realm. The most rational conclusion seems to be, that vaccinia produced in infancy completely resists the poison of variola for a certain period, but gradually the individual loses his insusceptibility, so that the disease, after the lapse of time, varying in different people, is not completely resisted, but regains more or less of its original power over the organism as the date of primary vaccination becomes more or less remote. Thus it becomes necessary to consider the propriety of insisting upon revaccination at intervals of eight or ten years. It is certainly a fact that, in upwards of two hundred individuals whom I vaccinated during the prevalence of small-pox in this city, and all of whom were to some extent exposed to the contagion, not one was smitten by the disease. The object of this paper, however, is not to descant upon the wonderful influence that vaccination exercises over the poison of variola, but to show how this disease, when it makes its appearance, may be rendered as harmless as possible.

About six years ago, when small-pox was epidemic in Glasgow, many of my patients were prostrated by it, all of whom, I am thankful to say, recovered; and I am inclined to the belief that this satisfactory result was attributable in a great measure to the plan which was adopted of treating the skin during the course of the disease.

It is only natural to conclude that the great exhaustion which ensues in small-pox is due to the fact that the highly nervous and important as well as extensive organ, as the skin most certainly is, is in a state not only of great and intense irritation, but of almost complete inactivity as well. Now, the greatest danger of a fatal issue is generally contemporaneous with the development of the suppurative or secondary fever; and, as my method of treating the disease does away with any secondary fever, the greatest, or at least one of the greatest, sources of danger is removed. By commencing this treatment at the very beginning of the attack, the comfort of the patient is secured at once; the skin is rendered less irritable; the fever, in consequence, is kept down; the strength of the patient remains unimpaired; he is able to sleep and take nourishment, and, in short, to pass through the whole course of the attack with the minimum of discomfort. At the period when suppuration commences in the vesicles, and when otherwise a new phase of the disease would present itself, no such unhappiness is encountered, and the patient sails pleasantly through a sea of troubles, quite unconscious that he is doing so. This excellent result is due, doubtless, to the sedative effects of the remedy employed.

The plan of treatment consists in painting every part of the skin where the eruption appears with one part of carbolic acid dissolved in from eleven to fifteen parts of glycerine, and repeating the application night and morning. The urine must be watched with great care, as it often happens that the carbolic acid becomes absorbed and makes its presence known in the urine by giving the fluid a dark smoky appearance. If this be observed, the application must be made less frequently, or a weaker solution of the acid employed, as it may act too severely as a depressing agent, though I never knew this actually to result from the use of even the more concentrated solution. The employment of carbolic acid in this way has other advantages besides those already mentioned. It acts as a disinfectant, and it prevents pitting to a very great extent. The latter effect is due to the fact that suppuration does not run the same lengthened course as it does when no carbolic acid is employed, and thus the skin is not destroyed to such a depth as it would otherwise be. I could enumerate many of my patients who have suffered from what might have been called very severe attacks of small-pox, and yet now they present not the slightest trace of having had the disease.

The following cases will give some idea of the results obtained while pursuing this plan of treating the malady.

CASE I.—Mrs. T., aged 60, a thin and delicate lady, took small-pox on November 21st, 1871, which was not only confluent, but in some parts of the body hæmorrhagic. I never expected that my patient