Clinical Cases.

ON RECOVERY FROM IDIOPATHIC CEREBRO-SPINAL MENINGITIS.

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INFLAMMATION of the membranes of the brain is usually and rightly regarded as a very formidable and fatal disease. Yet even in that deadly variety of it, in which the inflammation depends on the presence of tubercles, there is reason to believe that recovery (probably only temporary) occasionally takes place; and there can be no doubt that in the idiopathic affection the prospects of cure, though still gloomy, are sufficiently good to encourage careful and watchful treatment, and to justify hope even in cases that seem to be doing badly.

Of course in cases of suspected meningitis which recover, and where one's diagnosis rests only on symptoms, it is always possible to argue that these have been misinterpreted; and with the more plausibility in most such cases, because the symptoms have for the most part been not only milder, but less distinctive, than they usually are in cases that prove fatal.

I have already, elsewhere, adduced evidence in favour of the possibility of recovery from symptoms of meningeal inflammation due to the presence of tubercles. I propose in my present paper to bring forward cases illustrative of the cure of (or perhaps rather recovery from) meningitis of idiopathic origin.

By a curious coincidence, of which examples are frequently met with in the course of practice, three cases of what I regard as idiopathic, or sporadic, cerebro-spinal meningitis have come under my care in hospital practice during the last eighteen months. Of these, two recovered, and one (the last) died. I add this last case because it tends to confirm the correctness of the diagnosis made in the other two; inasmuch as while it was almost identical with them in symptoms, at the autopsy well-marked meningitis (unassociated with tubercle) was found.

CASE 1.—*Cerebro-spinal meningitis—Recovery.*

M., aged 26, a riveter, was admitted under my care on the 8th of July, 1886. He had been quite well up to the 3rd of the month; on the morning of which day, while dressing, he felt a sharp pain at the back of the head. He went to work as usual; but in a short time was again suddenly seized with violent pain at the back of the head, attended on this occasion with nausea. He tried to go out of the workshop into the open air, but would have fallen had he not been supported; and he vomited. He does not think that he lost consciousness. He was then taken home and put to bed, where he remained until his removal to the hospital. During this time he suffered from almost continuous severe occipital pain, retraction of the head with inability (from pain) to bring it into the natural position, nausea and constipation. There was no history of syphilis, rheumatism, or indeed of any serious illness.

State on admission.—The patient is a slightly-built man, complaining of great pain in the head, which, he says, is now general, and occasionally shoots down the neck, and into the shoulders. The head is strongly retracted and kept rigidly in that position; and there is tenderness on pressure over the spines of the upper two or three cervical vertebræ. There is no affection of the ears. The pupils are not quite equal, but both act well to light and accommodation. There is no oculo-motor paralysis; and the fundi are normal. No trace of paralysis or loss of feeling is present in trunk, face, arms or legs. But the knee-jerks are brisk, and there is slight ankle-clonus. He is quite sensible.

No disease is discoverable in the chest or abdomen. The tongue is coated, the appetite bad, the bowels confined; the urine has a specific gravity of 1030, and is free from albumen; pulse 76, respirations 32. The temperature during the first day varied between 100 and 100·6.

There was no great change in the patient's condition during the next four days. During this time, there was still much retraction of the head, with more or less constant pain in it, and tenderness over the upper cervical vertebræ; his temperature, though tending to fall, and occasionally normal, usually varied between 99 and 100·4; his bowels continued inactive; and his pulse ranged from 54 to 65. But he suffered from occasional paroxysms of very intense pain, confined chiefly to the back of the head, attended with groaning and cries of distress, and lasting from two to three hours or more at a time. These paroxysmal pains at times extended down the neck and arms; and on one occasion were most severe in the sacral region and along the thighs. The attacks usually came on without obvious cause; but once or twice were evidently induced either by attempts to bend the patient's head, or by making him sit up for the purpose of examination. It was observed, also, that there was much tenderness, apparently in the right sterno-mastoid muscle at the level of cricoid cartilage. He did not vomit; he remained quite sensible, and (excepting when suffering from severe

pain) slept fairly well. On the 11th, twelve leeches were applied behind his ears.

From the 13th to the 17th there was progressive amendment. He still had occasional attacks of pain, but they were much less severe than they had been; he still complained of tenderness in the cervical spine and right sterno-mastoid, but this was diminishing; and he became able to move his head, so that on the 17th he could bring his chin to within two inches of the sternum. The pulse was still inclined to be slow, and the temperature (which was generally subnormal) ranged from 96.4 to 99. The optic discs were healthy. On the 17th he got up for the first time.

On the 18th, 19th, and 20th, he still on the whole gained ground; but he still suffered from paroxysms of headache, and on the morning of the 20th had an attack of some severity, which lasted for about two hours. His temperature, however, continued subnormal; and the movements of his head were becoming more free. Some tenderness remained in the right sterno-mastoid, and tenderness also was noticed in the left.

With the exception of the occurrence of a not very severe attack of frontal headache early in the morning of the 27th, no incident worthy of notice was observed during the remainder of his stay in the hospital. He gradually lost all trace of headache and of stiffness and pain in the neck, and was discharged apparently well on the 2nd of August. During his stay in the hospital he was treated with iodide of potassium and mercury.

CASE 2.—*Cerebro-spinal meningitis (?)*.—*Recovery*.

George D., a porter, 19 years of age, came under my care on the 23rd of June, 1887. He stated that he had had good health until the previous Easter, since when (although he had had no definite symptoms of illness) he had not felt quite well.

He had for some days been much exposed to the sun, when (on the 19th) he woke up with a severe headache, which (attended with vomiting) continued throughout the day. From that time to the day of admission his headache had not left him; he had been so giddy as to be unable to walk, and occasionally he had seen double. His appetite had been bad, his bowels confined.

On admission.—He was a somewhat spare and delicate-looking youth. His face was flushed, his lips dry. His head was held rather rigidly, and there was pain on movement. The pupils were dilated, but equal, and acted freely to light and accommodation. Neither eye could quite reach the outer canthus; but the left external rectus appeared to be the weaker. He saw double, especially when looking at distant objects or to the left. The optic discs were normal. The tongue, which was thickly coated, was protruded slightly to the left. There was no other paralysis, and no impairment of sensation; the tendon-reflexes were normal, and he was perfectly sensible. The thoracic and abdominal viscera were apparently all healthy.

Pulse 60. Urine, sp. g. 1004, and presenting a trace of albumen. Skin hot and dry. The temperature varied from 101·2 to 101·8.

For the next twelve days the patient's condition underwent but little change. His headache, which was chiefly frontal, continued, and was liable to occasional severe exacerbations; and at times the pain extended down the spine. The head, too, though not retracted, was held rigidly; and he complained of some tenderness in the muscles of the back of the neck. The weakness of the left external rectus continued, with double vision when looking at distant objects or to the left; and nystagmus was observed when the eyes were turned strongly to the right or left. The tongue still pointed to the left when protruded. The arms and legs remained unaffected; but slight ankle-clonus appeared on both sides. His temperature was irregular, and varied from 97·4 to 102·8; each access of severe pain being attended with rise of temperature. He had no recurrence of sickness during this time; his optic discs remained normal; he had no convulsions or delusions, and he retained his intelligence.

During the next month there was, on the whole, improvement. The temperature for the most part was normal or subnormal, and the headache was less constant and less severe. But, at irregular intervals of a few days, the temperature would rise to 100 or 101; and such rises were attended with more or less severe pain in the head, which at times extended down the back, and on several occasions down the left arm to the fingers. Moreover, during this period, he was not unfrequently sick, the sickness occurring chiefly in association with the cephalalgia. The squint, nystagmus and tendency to ankle-clonus continued. But the weakness of the left side of the tongue disappeared; and the stiffness of the neck subsided. His eyes were examined at the end of July by Mr. Nettleship, who reported that the right optic disc was then swollen and hazy; and that, although the left disc was less affected than the other, it was also everywhere more or less hazy.

During the first six days of August, he suffered a good deal from attacks of headache, attended with extension of pain to left shoulder and arm, sickness, and febrile temperature. But after this his improvement was almost uninterrupted. His temperature, with only one or two exceptions, remained normal or subnormal; he lost his headache and (sickness excepting on those one or two occasions) his nystagmus, double vision, and ankle-clonus; his appetite became good; he was no longer confined to bed; and for the most part he felt, and seemed, in good health. The optic discs were re-examined a day or two before he left the hospital; and, although both presented evidences of neuritis, they were manifestly improving.

He went on the 8th of September to a Convalescent Home, where he remained a month, and whence he returned apparently well.

During the first week the patient twice had six leeches applied behind the ears, and a few days later a blister to the nape of the neck. Up to August 5th, he was treated with iodide of potassium

and mercury ; subsequently to that date, with quinine and iron. On one or two occasions opiates or other sedatives were given to relieve pain.

CASE 3.—Cerebro-spinal meningitis.—Death.—Autopsy.

E. P., a boy of 13, was admitted on the 5th of December, 1887. A fortnight previously he had come home from school complaining of pain in the back of the head. From that time he had kept his bed, suffering from headache, loss of appetite, sickness, retraction of the head, and so much general tenderness that he screamed whenever he was moved. He had been delirious and noisy at times. But he had never lost consciousness or suffered from fits.

State on admission.—He was a thin boy, with a pinched expression, and strongly retracted head, complaining of pain in the head and back of the neck, and of pain in the eyes when they were exposed to strong light. He was somewhat stupid and confused, and inclined to ramble in his talk ; but, when spoken to with decision, answered questions and did what he was told to do. His eyes were kept closed ; the pupils were dilated and equal, and acted to light. There was no obvious oculo-motor palsy. His head and spine and thorax were hyperæsthetic. There was no sign of paralysis anywhere. The skin was harsh and dry ; and no tache cérébrale could be obtained. His lips were dry, his tongue thickly coated, and he appeared to have some difficulty in swallowing. The abdominal and thoracic viscera were apparently all healthy. Pulse, 80 ; respirations, 20 ; temperature varying between 100 and 101. Urine passed unconsciously. Bowels constipated.

For the next three days his condition remained much the same as on admission. His temperature varied every day from about 99·4 to 100 or 101, and his pulse from 80 to 140. He took little food by the mouth, and seemed to have difficulty in swallowing, but was not sick ; and had to be fed mainly by the rectum. The retraction of the head and hyperæsthesia continued ; he had delusions at times and was apt to be noisy ; he complained of pain in the eyes, and in the back of the head and neck ; he passed his evacuations into the bed. It was thought that there was a little weakness of the right external rectus. During the greater part of the time, he lay quietly, but resented interference.

In the course of the 9th, his temperature fell to the normal ; and from that time to the 14th inclusive it never rose above 98·4, and was generally subnormal, occasionally falling to 96·4. During this period there was, on the whole, marked improvement ; he was still noisy and restless at times, and at times inclined to be drowsy ; and his pulse continued variable, and for the most part rapid. But he was sensible, and answered questions correctly ; his head, (though still occasionally retracted) assumed for the most part the normal position ; his difficulty of swallowing subsided, and although he still objected to food, he was latterly fed wholly by the mouth ; and he ceased to pass his evacuations incontinently

His tongue was still coated; his breath offensive; his urine free from albumen.

On the 15th his temperature rose. In the early morning it was 100·2, and at 9 A.M. 102·2; and it varied between 102 and 102·6 during the rest of the day. In the morning he was quite rational, but was sick and complained of great pain in the head, and had again lost control over his evacuations. His pulse was rapid (154); his pupils were dilated and equal; there was no strabismus. No retraction of the head was observed early in the day, but it came on strongly later.

During the greater part of the 16th, the temperature varied from 100·2 to 101·4: but at 8 P.M. it had fallen to 99·8. He had been very noisy during the night, but became drowsy and difficult to rouse in the course of the day; and, when roused, said that he felt worse and had pains all over him. He took food well, but vomited two or three times. His tongue had again become dry and brown, and his lips covered with sordes. Pupils normal. Pulse 124.

From the 17th to the 21st inclusive the temperature again was either normal or subnormal; and again there was marked improvement. He was very drowsy for the first day or two; but he became perfectly intelligent, answering questions readily; he lost his cephalalgia, retraction of head and sickness; he took food fairly well; and regained control over his evacuations. His pulse was usually about 120. On the 21st he complained of pain in one of his feet.

From the 22nd to the 27th there was again some elevation of temperature, which varied for the most part between 99·4 and 100·8, but on the 24th rose to 102·2. During this time, his symptoms varied somewhat; but he was evidently not so well as he had been. He complained at times of frontal headache, and at times was free from pain; his head was occasionally strongly retracted, but on the whole was freely movable; he was sick once or twice; he was generally irritable, and disinclined to answer questions or to take food. His tongue was inclined to be dry; his pulse was generally over 120; for the most part he had control over his evacuations. He had never previously allowed his eyes to be tested ophthalmologically, but now they were carefully examined on two occasions, and the fundi were found to be perfectly normal.

From this time until the 10th of January there were no very great changes in his symptoms, excepting that his emaciation and weakness, which had been progressively increasing since admission, became extreme, and he passed into a condition of apathy, in which he seemed to know and occasionally to observe what was going on, but for the most part vouchsafed no reply to questions save an occasional nod, and practically refused all nourishment. He looked intelligent; did not appear to suffer any pain in the head or elsewhere, although when he was moved or washed he would cry out and resent what was being done; lay for the most part on his back without any retraction of the head; and passed

his evacuations without any attempt to control them. He had to be fed through the nose, and was occasionally sick. He suffered from no attacks of unconsciousness or fits; and no signs of paralysis were detected. It may be added that his tendon-reflexes were normal. During all this time his temperature fluctuated: for a day or two being normal or subnormal; and then for a day or two varying between 99 and 101, or a little over. His pulse was generally quick, and on one occasion was counted 160 in the minute. Although in many respects the symptoms, and more especially those which seemed to be directly due to cerebro-spinal disease, appeared latterly to have undergone decided amelioration, it was quite clear that the patient was slowly and surely sinking from sheer debility.

The treatment consisted mainly in the occasional exhibition of calomel purges, and application of leeches or blisters to the temples or behind the ears; together with the employment of iodide of potassium and mercury during the first ten days, and of quinine during the next fourteen days, and again of iodide of potassium and mercury during the last eight or nine days.

During the greater part of Jan. 11th no change was observed. At 6 P.M. his temperature was found to be 103·2; and a quarter of an hour later he had a convulsive fit, which lasted about two minutes. He never regained consciousness. At 8 P.M. his temperature was 100·4; between 8 and 9 he had two more slight convulsive attacks. At 11 P.M. his temperature was 106·2. He died at 3.30 the following morning. His temperature immediately after death was 101·6.

Autopsy.—The corpse was extremely emaciated. All the thoracic and abdominal viscera were perfectly healthy, and free from tubercles. On opening the cranial cavity, the surface of the brain was seen to be dry, and the convolutions flattened. There was an abundant exudation of soft opaque lymph covering the under surface of the pons varolii, medulla oblongata, and cerebellum, and extending forwards so as slightly to involve the optic commissure. But there was no inflammatory exudation, either in the anterior or middle fossæ, or along the sylvian fissures. The lateral ventricles contained four to five ounces of serum, and the commissures were softened. But generally the substance of the encephalon was healthy. There were no tubercles, no disease of bone, no affection of venous sinuses or of arteries. There were slight traces of inflammation of the membranes of the upper part of the cord. But the cord itself and the vertebral column were healthy.

It will be readily admitted, I think, that the symptoms in all these cases were such as are apt to attend, and are fairly distinctive of, meningitis of the base of the brain and upper part of the cord. They all presented headache (not necessarily limited to the back of the head); retraction of the head, or rigidity of the neck, with pain and tenderness at the

back of the neck ; pain shooting down the spine and into the limbs or general hyperæsthesia ; and remittent febrile attacks, usually attended with aggravation of headache and sickness.

But the symptoms of meningitis are always very variable ; and it is not surprising, therefore, that some of the symptoms frequently met with were absent from one or other of the cases, or but slightly marked, and that consequently, as to details, they differed a great deal among themselves.

None of them presented any paralysis of limbs ; but in the first two slight ankle-clonus was observed temporarily. In the last it was not detected ; but this may have been due to the fact, that the patient always complained of pain when the feet were handled, and thus prevented examination.

In the second case, there was paralysis of one of the external recti with double vision ; in the third, at one time it was thought that one of the same muscles acted imperfectly ; in the first, slight inequality of pupils was noted. But with these exceptions there was no oculo-motor paralysis. For the most part the fundi of the eyes were healthy. In the first case, no optic neuritis was discovered. In the second case (which was under treatment for eleven weeks), slight optic neuritis became apparent at the end of five or six weeks, but had nearly subsided at the time the patient left the hospital. In the third case, the eyes were examined four or five weeks from the onset of the boy's illness, and no optic neuritis was then found. No subsequent examination could be made ; so that whether or not it supervened later I cannot say. It is noteworthy that, in the case in which there was an obvious and persistent squint, there was also slight nystagmus. In the first two cases the pulse, though variable, tended to be slow ; in the other the pulse was also variable, but usually very rapid. In the last case, although the specific symptoms of meningitis were not more pronounced than in the other two, the illness from the beginning appeared of a graver type ; and it is not surprising, therefore, that in this case only were there mental disturbance and loss of control over the evacuations. It is interesting, too, that in this case the specific cerebral symptoms had almost completely subsided for some little time before death ; and that this event appeared to be brought about mainly by progressive innutrition and debility. The peculiar apathetic and passively obstinate frame of mind, which characterised this boy during the last week or two of life, is a curious and interesting feature of some fatal cases of chronic affection of the membranes or surface of the brain.

I am afraid that no definite rules of treatment can be derived from my cases. I believe that leeches and counter-

irritants to the temples or behind the ears, and opiates or other sedatives for the relief of pain or restlessness, are often of much value in such cases, and were useful in these. And I am inclined to think that iodide of potassium and mercury are serviceable during the earlier stages, and quinine at a later period, especially if there be signs of amendment. But, on the whole, I suspect that judicious nursing and attention to small and various details is of more real value than drugs.