

lectual men. Each was eager to discover a new remedy for a disease with which he was profoundly disgusted. Each received the proposition, which emanated from the genius of my Bristol friends, with a perfect transport of joy. "What!" they exclaimed: "To give us sugar and saccharine food, the forbidden fruit of so many months—that which science has so long and so peremptorily interdicted! By Jove! there can be no method in the madness of medical men! To-day they are allopathic; to-morrow enthusiastically homœopathic! But we will submit to the proposed experiment."

It should be stated that between these two gentlemen there was no concert. They were unknown to one another, and lived in distant parts of the country.

I proposed that each should first return to common mixed food—including the use of sugar at breakfast and tea, ordinary bread at every meal, vegetables, and malt liquor.

It should, of course, be understood that before this experiment both these gentlemen had rigorously adhered to a non-saccharine dietary: that in Case A the urine had scarcely ever, for six months previously, varied from 1040 in specific gravity, and three pints in quantity in the twenty-four hours; that in Case B the conditions were very nearly the same, although not quite so unfluctuating.

In twenty-four hours after the change of diet in Case A, the urine increased from three pints to four pints and a half, and from 1040 in specific gravity to 1042. In forty-eight hours under the same diet the quantity rose to five pints and some ounces, and the specific gravity to 1050. In another twenty-four hours, being the third day from the commencement of the experiment, the volume rose to six pints, and the specific gravity to 1056.

Case B exhibited almost precisely the same change. The urine increased in quantity and density in the same time in an equally remarkable degree.

Neither of the patients could be prevailed upon to continue the experiments any longer. Both grew rapidly worse in every respect, and became greatly alarmed. The thirst grew more and more unquenchable. The skin became drier and drier; the bowels were every day more constipated; the mind passed from a calm state into a condition of rapidly increasing excitement, in one bordering almost on mania. The symptoms in every sense exchanged the passive for the active condition. Both patients regained their former tranquil feelings by the use of opium for three or four nights; and it was only slowly that the urine returned to its former physical properties. These two gentlemen emerged from this ordeal with the deeply-rooted convictions that the old system was the best; that practice is above and beyond theory; that the rule of contraries is preferable to that resting its airy claims on fancied similitudes.

I do not wish either to disparage or to discourage my friend Dr. Budd. His meteoric idea, although not new, came upon me with convulsive and startling effect. I have found that his theoretic prophesies have alarmed me in actual practice. In his own able hands the results may be different. Let him give them to the world!

It seems to me that the results obtained through the preceding experiments lend a striking confirmation to the views lately advocated by Dr. Harley, of University College. (*British and Foreign Medico-Chirurgical Review*, July, 1857.) Dr. Harley proves, by an ingeniously devised series of experiments, that certain irritating substances (chloroform, ether, methylated spirit, ammonia, etc.) injected into the portal system of a healthy animal, are capable of exciting that irritation of the liver, which, in a very short time, is followed by the appearance of sugar in the urine.

This is undoubtedly the fact. Dr. Harley differs from M. Cl. Bernard as to the explanation. I have no hesitation in siding with Dr. Harley, and maintaining that irritating substances introduced into the portal system augment the glucogenic function of the liver, by stimulating the hepatic branches of the pneumogastric nerve, by which the stimulus is transmitted to the spinal centre, and thence reflected through the splanchnic system upon the secreting cell-system of the liver; and that, by parity of reasoning, the sugar, in my human experiments, entering either in an entirely unchanged, or in a partially unchanged form, into the portal system, acted in the same manner as an irritant upon the hepatic branches of the pneumogastric nerves.

CASES OF NERVE-DISORDER, RECORDED WITH REFERENCE TO THE PROBABLE OPERATION OF MALARIA AS A CAUSE.

By C. HANDFIELD JONES, M.B., F.R.S., Physician to St. Mary's Hospital.

SERIES II (*concluded*.)

CASE XXIII. L. M., aged 16, a plasterer's labourer, was admitted May 25th, 1857. He never had ague, and has lived all his life in Marylebone. He has been ill six weeks. He was "red in the face and fat" when he was first taken ill, but is now extremely anæmic. The skin is warm; the pulse weak; the bowels regular; the tongue coated. At the beginning of his illness he had cold shivers, and has the same now from 2 to 4 A.M. every day; he gets hot then for two or three hours, and afterwards has sweating. There is no enlargement of the spleen or liver. He was ordered to take two grains of disulphate of quinine every two hours.

May 28th. He has not had the shivers nor been feverish the last two nights; he feels only weak. The quinine has produced buzzing in the ears. The skin is cool; the tongue white.

℞ Quinæ disulphat. gr. ij; ferri sulphatis gr. iv; acid. sulph. dil. q. s.; aquæ ʒi. M. Fiat haustus quater die sumendus.

He was ordered to take a drachm of cod-liver oil three times a day.

June 30th. He looks and is better, but is still very far from strong, and has traces of febrile paroxysms still hanging about him. The medicine was not continued more than about a week since last visit.

This case of quotidian fever seems to have been of purely London origin.

CASE XXIV. G. R., aged 32, a carpenter, generally has good health. He has been ill three weeks. He was taken ill at Dover, with shivering occurring every night, followed by violent sweating; he had pains in knees and soles of feet. He still shivers every night, more or less; but has no sweating. He complains of debility, pain at the back of the head, and exhaustion on the least exertion; has bad nights, and no appetite. The pulse is very feeble; the tongue is covered with white capped papillæ; the skin is cool; bowels costive; urine of dark colour. He has pain across the loins, and in the left shoulder. The stomach and intestines are shrunken; there is no enlargement of the spleen or liver. The thoracic organs are healthy. Iodide of potassium, with carbonate of ammonia and tincture of cinchona, were given at first for three days, with two doses of calomel and colocynth, but without any advantage.

July 22nd. The stomach can only retain milk and beef-tea. He is so feeble he can hardly stand. The bowels are confined. There is no epigastric tenderness. He was ordered to take three grains of disulphate of quinine three times a day.

July 25th. There is no sickness; but he takes only milk and arrow-root. The tongue is less coated; pulse very weak. He is extremely weak. The urine is exceedingly dark coloured. The quinine was ordered to be taken four times a day. He had a chop and half a pint of porter.

July 28th. He feels hungry, and is much better; the tongue is much cleaner; pulse still very small and weak; urine still very dark, specific gravity 1020, not albuminous.

August 5th. He is improving, getting stronger. The urine is much lighter coloured.

August 12th. He was discharged, well.

REMARKS. The above is a good instance of malarious disease, the pyrexial symptoms having receded so as to be only obscurely marked, and little more of evident derangement existing, except profound debility and disorder of the digestive functions. The urine alone retained the febrile character, its deep colour indicating a great amount of waste, especially of the red globules of the blood. Its amount was not measured, but I think I can be sure it was not below the normal. I do not know that Dover is considered a malarious place; but there can be no doubt of the nature of the above case; and a good many instances of ague have come under my notice the last year in persons who appeared to have received the infection in Kent. I believe practitioners would often do well to inquire, in cases of obscure disorder, whether their patient might not have brought infection with him from some seaside or other place he had lately visited.

CASE XXV. G. N., aged 56, a smith, was admitted February

23rd, 1857. He had been ill during the last nine months with intense pain following the course of the sciatic nerve in the right thigh, passing then down outside of the knee and along the shin. The pain seems to weaken the leg. He has pain at the præcordia on drawing a long breath, and between the shoulders. The skin is cool; the pulse feeble. He feels very weak. He is ruptured, and wears a truss on the right side. An ointment, containing fifteen grains of veratria to the ounce, was applied to the leg.

℞ Cinchonina gr. iij; ferri sulphat. gr. v; acid. sulph. dil. q. s.; spiritus atheris sulph. comp. ℥ss; aquæ ℥j. M. Fiat haustus ter die sumendus.

He improved steadily on this treatment.

March 23rd. There is very little now of the pain in leg and loins; but he had violent pain in the stomach on the 21st, which is better, but has not yet ceased.

March 30th. The sciatica has ceased, but the limb remains weak. A return of the stomach pain was stopped by half a drachm of laudanum in brandy and water; but he has had for several days intense frontal pain. The head is hot.

The same treatment, increasing the dose of cinchonine one grain, and giving a drachm of cod liver oil three times a day, after April 27th, was continued till May 25th, when he was discharged, cured.

REMARKS. The shifting tendency of the nerve-disorder in this case is the point I wish to remark, as indicating the existence of a poison affecting the system, rather than any local cause. There was also the marked debility so usual in these cases. In proportion to the length of time the disorder has existed must be the time requisite to effect a cure. This is a point which both patient and physician do not always sufficiently keep in view.

CASE XXVI. M. P., aged 56, married, residing near a canal, was admitted June 18th, 1856. She complained of palpitation coming on at intervals, attended with pain, numbness, and powerlessness in the left arm, side, and leg, and some faintness; there was also some atonic dyspepsia and shortness of breath. Arsenic, with ammonia and cascarrilla, benefited her a good deal.

July 30th. A patch of syphilitic eruption (tubercular) showed itself about one knee, for which she was treated by iodide of potassium, etc. After some slight febrile paroxysms, severe pain about the præcordia, and the occurrence of a small node on the right ulna, the syphilitic symptoms receded; but from October 25th she began to suffer severe neuralgia of the right forearm, extending from the elbows to tips of fingers, which was aggravated at night, and destroyed at last her rest. This yielded to ten grains of disulphate of quinine three times a day, ordered on November 3rd. By November 10th, she felt only a "little shoot" now and then, which passed away immediately. The medicine caused dimness of vision and giddiness. She was much stronger. Quinine and iron were then given, with a little opium, till December 1st, when she was discharged, very fairly well. It was interesting to observe that a fright produced a very severe return of the neuralgia for twenty-four hours after it had quite ceased for some days. The urine before the administration of quinine was very copious, and like water. After she had improved a good deal, it was in much less quantity, and of higher colour.

REMARKS. In this case, we meet again with the question of the canal influence. I believe myself that it had to do with the production of the neuralgia. The syphilitic eruption and node complicated the case, but appeared to be a distinct affection. The diminution of the flow of urine, under the use of quinine, indicates a toning action upon the afferent arteries and the Malpighian tufts of the kidney.

CASE XXVII. E. H., aged 10, was admitted March 23rd. She had been ill above a year. She vomits up most mornings, when she wakes, a great quantity of yellow and slimy matter. The vomiting is attended with pain at the lower part of the sternum; it used formerly to occur at various times in the day. There is no epigastric tenderness. She has better appetite in the evening than at other times. The pulse is very feeble and small; the skin cool; the tongue white. The abdomen is rather large. No regular treatment was carried on till about a month later, when she was suffering from violent pain in both temples, and with the vomiting, which now occurred alternate mornings. There was a dark rim under the eyes; the tongue was coated; the eyelids were tremulous. The pain of head was worse at night. The bowels were costive. She was under steady medication from this time to June 22nd, when I sent her to the Convalescent Institution at Walton. Strychnia,

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quinine, and iron, with cod-liver oil, were the remedies employed, variously combined. These were of decided benefit; the head pain and the vomiting ceasing for more than a week, and the sleep being much better. It was very noticeable, when she relapsed, what a dark rim appeared under the eyes; she had at the same time all the aspect of profound depression and debility. The idea of some latent cerebral disease, of course, was present to my mind; and this suspicion was further increased on June 5th, when, with a relapse, there was a history of her squinting occasionally; and she averred to me herself that she saw three pens when I showed her one. Still the debility was so marked that I trusted to follow its indications; and I think rightly, as, after giving her strychnine, iron, and quinine, in combination, she was much better for nine days. When I saw her at the last date, there was a patch of sub-conjunctival extravasation, the pain was better, and there was no sickness. She then went to the Convalescent Asylum, but was much worse there, and only remained four days. I have now seen her again (November 13th), and find her, after having been in the hands of another physician at a Dispensary, in about the same state as when I first saw her. She is very weak and prostrate; has much head pain and vomiting, but no paralysis or other symptoms of cerebral disease. The head is sometimes quite free from pain, and one side is affected.

REMARKS. The evidence which seems to justify the conclusion that this case was one of (aguish) nerve-disorder, and not cerebral disease, is—(1) the length of time the malady has continued without the occurrence of any symptom certainly declarative of organic change; (2) the very decided benefit obtained from tonic remedies, which would, in all probability, have been injurious in cerebral disease; (3) the remarkable debility, with the increase of which the pain and vomiting also became aggravated. The suggestion which the case offers is worth bearing in mind; viz., that cerebral disease may probably be simulated by such a state as above described. The sub-conjunctival extravasation is an interesting phenomenon, and one which I think has no little resemblance, in the way of causation, to purpura. Certainly I have known this disorder to disappear under iron and quinine, with a generous diet, without any special modification of the latter. I have seen an excellent paper from the pen of Dr. Hyde Salter, dwelling on the same point, which I regret I cannot at present find so as to refer to it.

The following brief notices of cases afford evidence of the effect of residence in London in originating or developing aguish disorder.

(a) A hard worked medical man, resident in Paddington for eleven years, informs me that, so far as he knows, he has never been in districts where ague is prevalent. About four years ago he suffered from distinct quotidian, and is still subject to recurrences of similar disorder.

(b) May 15th, 1856. J. T., aged 48, has always had good health, except ague twenty-six years ago at Howe, in Kent. He has lived at Paddington or at Kensal New Town eighteen years. About six weeks ago he went down to Uxbridge to do bricklaying work for two or three days; he worked on a wide open common. In three days after his return quotidian ague commenced.

(c) E. S., aged 19, female. March 19th, 1856. Lived, until the last five years, at Wisbech, in Cambridgeshire; since then in London. She has tertian ague, which commenced in the course of the last year; never had it before.

(d) An eminent surgeon, after suffering for two or three weeks from great depression of nervous power, and inability for exertion, had decided aguish attacks in the beginning of February, 1857, which were cured by quinine and sleeping out of town. He had ague once twenty-five years ago at Sheerness.

(e) June 5th, 1857. G. S., aged 30, works in sewers. He was in Kent ten months ago; no one had ague in the place to which he went; he remained there fourteen days. After this he returned to Paddington, and has been working there ever since, not near the canal. Tertian ague began nine weeks ago; it ceased after treatment in six weeks; but ever since he has had neuralgia of both sides of the chest at the lower parts, with sinking sensations, and occasional burning heat flushes.

(f) L., aged 19, a medical student, residing not far from the Paddington canal, has a decided attack of ague, never having suffered from it before, nor having resided in any known malarious district.

(g) May 13th, 1857. S. A., f., aged 15. About fourteen days ago she had tertian ague for the first time. It came on without any known cause; she fell down suddenly faint, and on recovering perspired freely. She is a servant, and sleeps in a

kitchen. She came from Norfolk to London; there is no ague in the part of Norfolk from which she came.

(h) May 5th, 1857. A policeman, aged 25, on night duty, had tertian ague, the rigors occurring every other night. He was previously a carman at Maidstone, of most abstemious habits. He had no ague before he came to London, where he had been about eleven weeks before the attack occurred. He lived in Walbrook, in the City.

(i) June 16th, 1857. W. E., aged 11, born, and always living in Paddington, has had ague of quotidian type three months; none last fourteen days; but is without appetite, languid, and prostrate. The liver and spleen are considerably enlarged.

SUMMARY. The morbid phenomena described in the preceding series are all referrible to a lowering or derangement of the nervous force in one or more situations. The brain may suffer, or the spinal cord, or the cardiac nervous centres, or those of the stomach or other abdominal viscera, or the vaso-motor nerves of other parts, or any sensory or motor nerve. Paralysis of the sympathetic nervous system will afford a reasonable explanation of the febrile attacks that have been often alluded to. (*Vide* Virchow's and Parkes' writings.) The disorder of the nervous power sometimes has, at least for a time, more of the nature of irritation than of simple prostration.

The question that now suggests itself is, are we to consider these phenomena as produced by a malarious miasm, or by merely common causes? To aid in answering this question, I adduce the following considerations:

1. It cannot be affirmed that malaria *may* not be generated wherever a moist surface is undergoing the process of drying. There are many well-known facts in proof of this; I will only adduce the following, which was kindly communicated to me by Dr. J. Marston. The whole crew of a ship, laden with wet deals, became affected with intermittent fever during a voyage from Norway to Lowestoft, and recovered on being landed and treated with quinine. The case was not a solitary one. In another instance quinine was of no avail as long as the crew remained on board the ship.

2. The metropolis is within reach of malaria transported from the low ground along the banks of the Thames.

3. Some cases of ague do certainly occur which seem to have been really produced in London; and in various others a pre-disposition long dormant has been rendered active again during a London residence.

4. The action of malaria is by no means limited to the production of intermittent and remittent fever. Dysentery, neuralgia, and a multitude of other morbid states are unquestionably produced by it. It may require much acumen to distinguish the non-malarial from the malarial disorder, and perhaps is not always possible. Yet the coexistence of marked debility and depression, or of paroxysmal fever, the failure of other remedies, and the success of quinine and the like means, or of change of air, will often enable us to distinguish clearly. If we meet with such cases we have almost as much proof of the presence of malaria as if the disease were an ague. When, for instance, we meet with marked neuralgia, not dependent on gout or rheumatism, or any local irritating cause, prone to relapse, somewhat shifting in its locality, and benefited by quinine, iron, etc., and by a pure bracing air, I believe, in the great majority of cases, it is truly of malarial origin.

5. Several good observers are of opinion that there exists a real affinity between cholera and ague; that the former has much resemblance to the so-called pernicious fevers. This view I quite concur in, as well for other reasons as from having myself experienced, during the last cholera epidemic, an attack which appeared to those who witnessed it to be most like ague, but which was evidently the effect of choleraic poison. Again, other good authorities have remarked a connection between ague and influenza; *vide* some remarks of Dr. Headlam Greenhow, quoted in a previous paper on malaria, published in this JOURNAL. It ought, I think, to weigh with us in some measure that both cholera and influenza, though in somewhat milder forms, show a tendency to become naturalised among us. Cholera revisits us at short intervals, and every now and then we have catarrhal affections prevailing which we are obliged to call influenzal. Surely this shows that we live under the influence of some peculiar constitution, which favours the recurrence of these disorders. Of both cholera, aguish disease, and influenza, it may, I think, be stated that prostration of strength is one of their most marked features, distinguishing them from other affections more or less similar.

My own reply to the question proposed above is, That there does prevail in and about London, at the present time, a morbid influence, which affects the weakly and predisposed in such a

way as to produce disorders, whose main character is the prostration or derangement of nervous power in some part or other, and which exhibit, in not a few instances, a decided resemblance to the ordinary effects of marsh malaria. The exact origin of this influence I cannot pretend to determine; I incline to the view that it is partly of a general, partly of a local nature.

While I am fully aware that the mind may easily get so pre-occupied with one idea that it can take in no other; and while I have endeavoured to guard against this error, it yet does appear to me that such forms of disease as I have sketched above are those which prevail most at the present time, at least about the metropolis. I would only ask practitioners, in caring for perplexing cases, to allow the view I have suggested to enter into their consideration.

THE PHYSIOLOGY, PATHOLOGY, AND THERAPEUTICS OF THE MOTOR FUNCTIONS OF THE UTERUS.

By H. HANNOTTE VERNON, M.D., Physician to the Great Northern Hospital; formerly Resident-Accoucheur to St. Mary's Hospital.

[Continued from page 905.]

PART III.—THERAPEUTICS (*continued*.)

HAVING disposed of the various modes of diminishing the irritability of parts affected with hyperæsthesia, so as to lessen the reflex motor impulses derived from abnormal eccentric conditions of the nervous system, it now remains to describe the various

II. *Modes of Exciting or Exalting the Polarity of the Nervous Centres concerned in Parturition, and also of Allaying their too great Polarity.*

As a preliminary to the details of this paper, some principles must be laid down with respect to the use both of excitants and sedatives of the nervous centres. Some regard must always be paid to those correlations which I have insisted upon as obtaining between physiology, pathology, and therapeutics. In illustration of this, let us imagine a case of labour in which birth is delayed: it is not enough to say, "Here is ergot of rye, let us hasten labour." There must be a *normal* connexion between the cause of delay and the means used to obviate it, otherwise we shall be treading upon unsafe ground. These axioms may, I am convinced, be laid down as rules never to be reversed—as rules which tend, in the hands of competent persons, to increase the power of directing the uterus, and to procure the almost absolute safety of the patient, in so far as the matters upon which they touch are concerned.

1. Excitants of the nervous centres should be used only when delay arises from defective polarity of such centres—never in order to overcome a mechanical obstacle.

2. Hyperæsthesia, and the opposite condition of any given nervous centre, should, if possible, be treated by the exhibition of those agents which act upon the centre affected.

3. Mechanical obstacles, of whatever kind, should invariably be dealt with by mechanical means, or means which will remove the obstacle itself.

Thus, by rigidly keeping up the connexion of vital defects with vital helps, and mechanical obstacles with mechanical helps, we shall run no risk of ruptures, bruises, lacerations, or other disasters which will be spoken of presently as following the improper use of oxytocics, or the unnecessary use of instruments.

The conditions which declare the necessity for stimulants or sedatives of the nervous centres, in labour, should be very distinctly understood and remembered; and most particularly the mind should not be allowed to dwell upon the pernicious idea, that the broad fact of delay implies a necessity for some more or less potent oxytocic. It cannot be too forcibly urged, that the proper use of stimulants of the nervous centres is not as additional forces to overcome obstacles, but as means of supplying the natural impulse to act when it is wanting or deficient. I have seen frequently the evil consequences of dosing with ergot of rye in order to compel the uterus to force a large fetus through passages somewhat too narrow. The rapid and energetic contractions of an overstimulated uterus are far more likely to bruise and lacerate, than the careful introduction of forceps or lever by competent hands. The necessary want of moulding and adapting movements on the part of the fetus,