DIPHThERITIC PARALYSIS:

ITS NATURAL COURSE, PATHOLOGY, TREATMENT, AND RELATION TO PARALYTIC AFFECTIONS FOLLOWING FEVERS.*

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[Continued from BRITISH MEDICAL JOURNAL, December 12th, p. 735.]

I PROCEED now to illustrate the paralytic affections which occur during and after Relapsing Fever, Enteric Fever, Cholera, Typhus, Dysentery, Rheumatism, the Exanthemata, and some other diseases.

PARALYTIC AFFECTIONS DURING AND AFTER RELAPSING FEVER.

In my account, published thirty-one years ago, of the Relapsing Fever as I saw it in 1843, in the first months of that most remarkable epidemic, I mention that paralysis of the deltoid and other muscles occurred in a few cases. In a woman, aged 36, there was loss of power in both deltoids, which continued for about ten days after restoration to health had taken place in all other respects. As my fever-patients, on leaving the hospital, generally ceased to be under my observation, I had comparatively few opportunities of studying paralysis and the other sequelæ of relapsing fever. In later writings on relapsing fever, I find notices of partial paralysis having occurred during convalescence in the practice of various observers.

Dr. R. T. Lyons, of the Bengal Army, in his valuable treatise on *Relapsing or Famine Fever*, published in London in 1872, says that paralysis is more commonly associated with that fever in India than in Europe. In this opinion, he is probably correct. Possibly, however, the Indian fever epidemics which, from the published descriptions, he considers to have been epidemics of relapsing fever, were not all of that nature, using the term *relapsing fever* in the special and restricted sense in which clinicians have employed it for the last thirty years. Be that as it may, it is evident that many of the Indian epidemics in question were essentially similar in kind to well observed and accurately described European epidemics of relapsing fever. But, even supposing that the fever which we know in Great Britain under the name *relapsing*, is not the same as any Indian fever, the following extract from the work of Dr. Lyons furnishes, in a concise form, some most interesting and precise statements in proof of the frequency with which various forms of paralysis have been observed as *sequelæ* of fevers in India. Such statements strengthen the opinion that there is nothing absolutely *sui generis* in the paralysis of diphtheria.

Again, at page 148, Dr. R. T. Lyons says:

"In the Kimeddy epidemic of 1833, M'Donell met with two cases in which paralysis supervened, and in one of these there was also anæsthesia or numbness; in both, the paralysis occurred during convalescence. In the Mercara epidemic of 1842, Lawrence says that several patients experienced loss of power and sensation in the lower limbs, and walked with a tottering gait, these symptoms being sometimes preceded and sometimes followed by oedema of the feet and hands. In the Mangalore epidemic of 1845, the same author found paralysis to be a frequent complication, and he further states that convalescence from paralysis was protracted and retarded by a temporary recurrence of the earlier symptoms: whether these were increase of circulation, oedema, or febrile heat, the paralytic symptoms were always increased at the same time. Eyre met with three cases of palsy, which were mistaken for beri-beri; all these proved fatal. In one case, the paralysis occurred in the primary fever, in another during the intermission, and in the third in the relapse. In the Umballa epidemic of 1866, Bateson found one of his two cases of hæmorrhage of the bowels affected with facial paralysis. Gray likewise met with a few cases of partial paralysis in the epidemic in the Lahore Jail in 1864. Hugh Clark observed one case of dysphagia. In the *Indian Medical Gazette* for April 1867, Garden describes eighteen cases of partial paralysis in children after fever. I consider the disease, from Garden's description, to have been relapsing fever, for the following reasons. The duration of the fever from two to eight or ten is more consonant with the character of relapsing fever than of typhus or typhoid, the former, moreover, being rare in India and the latter rare in Upper India, where Dr. Garden's cases occurred. In his account of the Saharunpore epidemics of 1869-70, he states that the disease was of annual and constant occurrence in his district. It is probable that it was occasionally in 1866, in which year Garden made these observations. In the eighteen cases, paraplegia occurred in ten, paralysis of the left leg in one, of the right

wrist in two, of the left arm in one, of the pharynx in one, and hemiplegia in two. All these cases occurred during convalescence. There was a natural tendency to recovery after an indefinite duration; but the more protracted cases became permanent."

Here we see two very strong points of similarity to diphtheritic paralysis: the "natural tendency to recovery" and the tendency of the "more protracted cases to become permanent". It is not inconsistent with a belief in the tendency to natural recovery to state that protracted cases sometimes become permanent; this permanence depends generally on muscular atrophy—a condition which is brought about by the paralysis, and which, acting as a new morbid cause, prevents natural recovery. A vigilant physician, with full command of his therapeutic opportunities, may often intervene, so as to prevent muscular atrophy—and its necessary consequence, permanence of the paralysis—whether its origin be diphtheria, enteric fever, or relapsing fever.

More serious than atrophy is the degeneration and destruction of muscular tissue—and specially of certain muscles—which is frequently observed after certain fevers and other diseases. That is a subject to be afterwards discussed.

PARALYTIC AFFECTIONS DURING AND AFTER ENTERIC FEVER.

After enteric fever, partial paralysis frequently supervenes. I have also met with cases of paraplegia supervening as a sequel to enteric fever. Paralysis, general or partial, is, perhaps, much more commonly a sequel of this disease than is generally supposed. Both in hospitals and in private practice, I have repeatedly seen it overlooked during convalescence, from its being mistaken for, or masked by, general post-febrile debility. Generally, the paralytic affections are limited in character, slight, and transitory. I have, however, sometimes seen them very severe and long-continued.

I subjoin the histories of two exceedingly interesting cases which I carefully observed, and reported from day to day when under my care. They were both cases in which the diagnosis was certain, and in which the fever ran a course of great severity. The first case occurred in 1870, in my military practice during the German siege of Paris; and the other was treated by me in the Hertford British Hospital in 1874. I shall afterwards succinctly describe some other cases.

CASE.—The patient was well formed, a soldier of the Garde Mobile, aged 24. He was sent into Paris on a frosty morning in December 1870, from one of the outposts, with a medical certificate to the effect that he was unable for duty, and labouring under severe dysentery. He had been, in succession, refused at four hospitals before he came to me, including two great hospitals—La Charité and the Hôpital Beaujon. At that date, all the hospitals, civil and military, and much of the extra ambulance accommodation, were overwhelmed with the sick and wounded. Both my hospitals were chiefly for wounded men; and the spare accommodation I had was being kept in reserve, in anticipation of a sortie. I, too, refused him; but, four hours after my refusal, he was returned to me with peremptory orders to receive him, as I had that day reported a certain number of beds as unoccupied. The poor fellow had been jolted about for six hours over the then rough and deeply rutted streets of Paris on a bitterly cold day. I was in my ambulance at the Ternes when he was admitted. He looked a doomed and almost a dying man; his countenance was haggard; his pulse feeble; his whole surface was cold; his respiration jerking and shallow; his shirt, great-coat, and red trousers were saturated with his alvine evacuations, which had become frozen. A small blanket in which he was wrapped was also stiff with frozen filth. From the time of his leaving the outposts till I received him, he had had only brandy and water, but of that he seemed to have had a large quantity. Two beds were forthwith prepared for him. His clothes having been taken off, he was quickly and entirely wrapped up in a large blanket wrung out of very hot water. Under this blanket, and in the recumbent position, he was carefully washed and scrubbed. After taking some beef-tea, he slept for half an hour. When he awoke, he was removed from the *wet* warm bed to one adjoining, which was *dry* and warm. The moving brought on vomiting, which, however, soon subsided. When I left him about nine o'clock, he had rallied somewhat, and had taken with satisfaction some tablespoonfuls of hot camphorated wine. The orders for the night were:—an astringent mixture if required; camphorated hot wine and beef-tea alternately at intervals; and turpentine stupes to the abdomen and legs. I saw him at seven next morning; he was lying on his side; his skin was naturally warm. He had had three dark liquid motions without any trace of blood. On the chest and abdomen, there was a characteristic and tolerably abundant eruption of the pink lenticular spots of enteric fever.

The case in its future progress was in all respects a typical case of uncomplicated enteric fever. In thirty days from the date of admission, he was in full convalescence. A few days later, as we

* Partly read before the Medical Section at the Annual Meeting of the British Medical Association in Norwich, August 1874.

were short of hands, he was occasionally accepted as a volunteer assistant at the surgical dressings. All seemed to be going on well till the seventh week from admission, when he complained of inability to put on his coat, which he ascribed to rheumatism. A day or two later, his gait was dragging, and the grasping power of both hands enfeebled. For ten days longer, he was able to move about the ward; but, during all that time, his locomotive power was daily diminishing. At last, he had to keep his bed, after which time the paralysis advanced so rapidly that soon he was unable to get out of bed for necessary purposes. There was paralysis of the external oblique muscle of the left eye for a week or ten days, and, on several occasions, there was atony of the bladder, requiring the use of the catheter. Notwithstanding the many disadvantageous circumstances incident to the siege, this man made a complete recovery. For several months, he remained under my treatment. At the close of the Second Siege, when the Government regained possession of Paris, he was sent to a military convalescent station in the country, whence he ultimately returned in robust health. During a great part of his residence at my hospital, the diet, from siege exigencies, was scant and bad, but supplemented largely by good red wine, which fortunately we could command in abundance. The internal treatment of this man, from the time the paralysis showed itself till it ceased, consisted in his taking fully two *litres* of excellent claret daily, and twenty drops three times a day of the tincture of the chloride of iron of the *British Pharmacopœia*. The external treatment consisted in the application of a succession of small blisters to the legs and arms.

It is worthy of remark, that the urine was albuminous immediately before and during the first ten days of the paralytic symptoms.

[To be continued.]

THE TREATMENT OF SYPHILIS BY MOIST MERCURIAL FUMIGATION.

By JOHN ST. S. WILDERS, M.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

As a pupil, and afterwards the friend and colleague, of the late Mr. Langston Parker of Birmingham, I must ask to be allowed space to reply to the following extract from a lecture delivered by Mr. Lane, on the modern treatment of syphilis, which appeared in the *JOURNAL* of December 12th ult. "Inunction is, perhaps, on the whole, to be preferred, especially for hospital patients; but it is troublesome and dirty, and, therefore, it is often undesirable to resort to it in private practice. The same objection applies to fumigation, with the addition that it is as a rule more debilitating, for the nightly vapour bath has a decidedly depressing influence."

With Mr. Lane's remarks on inunction, I quite agree; but I venture to take very serious exception to those on fumigation. To what method of fumigation he alludes (whether moist or dry) the writer does not explain; but I presume the well-known moist mercurial vapour-bath, first used by the late Mr. Langston Parker, about 1849, is the one called in question. Now, notwithstanding the fact of Mr. Lane's twenty-three years' experience as surgeon to the Lock Hospital, I affirm with the utmost confidence that the treatment of syphilis by moist fumigation is neither troublesome nor dirty, nor has it a decidedly depressing influence on the patient, but, on the contrary, that it is a cleanly, rapid, and most manageable method, and the most powerful therapeutic agent in the removal of disease, and the least hurtful to the constitution of the patient. This latter will, of course, depend upon the care which is taken in watching the effect of the baths, and by properly timing the intervals between them. Even the administration of Mr. Lane's favourite blue pill would require similar precautions. This method of treating syphilis was employed by the late Mr. Langston Parker in thousands of cases, both in private practice and in the wards of the Queen's Hospital; and its astonishing effects were witnessed and appreciated by practitioners and students alike, and led to the deservedly great reputation which Mr. Parker enjoyed, not only in this country but on the Continent, and even in America, whence patients frequently came to place themselves under his care. Ninety-one fully reported cases are to be found in his book on *Syphilitic Diseases*. Many of these I had the pleasure of reporting for Mr. Parker; and I can most fearlessly affirm that they are a trustworthy record of the marvellous efficacy of this treatment, which was always open to the scrutiny of the profession.

As to what is thought of it in America, I would refer Mr. Lane to Gross's *System of Surgery*, vol. i, page 505, where he will find the following: "Another method of employing mercury is by a combination

of fumigation with steam, constituting what Mr. L. Parker of Birmingham terms the mercurial vapour-bath. I can testify from considerable experience to the beneficial effect of this method of mercurialisation, having effected some very extraordinary cures with it after all other modes of treatment had failed." And, again, "My opinion is that this method of treatment is not sufficiently appreciated; it certainly deserves the highest encomiums." Such is the opinion of this distinguished American surgeon, in contradistinction to that of Mr. Lane.

I will reply to Mr. Lane's allegations, by a short account of a case which has lately been under my care in the Queen's Hospital, and which is of such recent date that it will be in the recollection of many of our Birmingham readers.

E. O., aged 23, contracted a chancre about four years ago, for which he was treated by mercury, in the form of pills. Secondary symptoms soon appeared, taking the form of eruptions on the skin, and very severe sore throat. In due course, he suffered from an attack of rupia, the scars of which are plainly to be seen. He had also had syphilitic orchitis, which assumed such a form that his surgeon removed the affected testicle. He had taken mercury by the mouth in various forms, iodide of potassium, iron, and sarsaparilla. His medical adviser—one of the most able surgeons in this town—had given his case more than ordinary attention, as he took a deep interest in the young man. The treatment adopted appeared to relieve the symptoms for the time, with the exception of the ulcerations of the throat, which were never completely cured; but relapses took place as soon as the treatment was omitted. On coming under my care, he was in a most emaciated condition, and so weak that he ascended the hospital stairs with great difficulty. The uvula was completely destroyed, and there were deep excavated ulcers in the remnants of the tonsils; the pharynx was in a sloughing ulcerated condition, some of the ulcers being very deep. He could only swallow liquids with great difficulty; solids he had not been able to take for some time. The cervical glands were affected. His own impression was that he could not possibly recover. Up to the time of his admission into the Queen's Hospital, he had been taking mercury by the mouth in various forms, iodide of potassium, and opium; and he had had good and sufficient food as long as he could take it. I, at once, ordered him a nightly moist mercurial vapour-bath, containing hydrargyri bisulph., 3ij; hydrargyri oxidi cinerei 3i; and a spray of black wash to the throat. He was directed to inhale the moist vapour while in the bath. A grain of opium was administered every night, to ease pain and procure sleep. The gums were touched after nine successive baths, and were kept spongy for nearly two months, the baths being given at varying intervals. The result of the treatment was, that the ulcers rapidly healed, and the patient gained twenty-eight pounds in weight in three months, notwithstanding "the depressing influence of the baths". He left the hospital looking fat and well, and feeling stronger and more vigorous than he had done since he had contracted the disease. The patient, who was a highly intelligent young man, watched the treatment with much interest, and I had some difficulty in restraining him from having too many baths, as he said they made him feel so comfortable and did him so much good. He has since remained quite free from a relapse, and has been doing twenty miles a day on the Devonshire moors.

This is no solitary case, but only one out of many which I hope, at no distant date, to lay before the profession in a more extended form.

CLINICAL RECORD OF CASES ILLUSTRATING THE TREATMENT OF ACUTE RHEUMATISM BY THE PACKING PROCESS.*

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CASE I. *Acute Rheumatism, with Pericarditis*.—S. G., aged 33, was seized, on February 27th, with general malaise, shivering, and headache. On February 28th, the symptoms and signs of acute rheumatism were well marked; every joint was swollen and painful. The breathing was oppressed and hurried. There was also pericarditis. Temperature, 101.4 deg. On March 1st, the patient was packed for six hours, and sweated profusely. She was allowed to drink freely of warm milk and water. The temperature during the pack rose to 103.6 deg. Pulse, 132; respirations, 30. The urine was acid, of specific gravity 1028. After being packed, she was quite free from pain. On March 2nd, she was packed for four hours. The pain in the joints had returned, but in a much milder form. The sweat still had the rheu-

* See BRITISH MEDICAL JOURNAL for January 9th, page 39.