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IN

EARLY (SECONDARY) SYPHILIS.

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CASES OF CEREBRAL SYMPTOMS IN EARLY (SECONDARY) SYPHILIS.

BY F. B. GREENOUGH, M.D.

That syphilis at the present time, on the whole, is a milder and less virulent disease than it was formerly is a fact which, I think, cannot be questioned. Whether this is due to a change in the type of the disease itself, or to an improved and more rational method of treatment, is perhaps an open question, but probably both of these factors have a share in the change that has taken place. That there has been a change is shown by the fact that while without doubt the number of cases of syphilitic disease has been increasing, the number of cases where we find serious and destructive lesions of the skin and mucous membranes have diminished. This is, of course, simply a statement of opinion, not corroborated by statistics, but I think the opinion I express will be endorsed by colleagues who have seen much of venereal practice. Of one thing there can be no doubt, and that is that at present many, that is to say, a large percentage, of the cases of syphilis do very well, and after the comparatively light symptoms of the secondary period have passed off do not hear from the disease again. I am aware that it is claimed that the disease is not eradicated, but simply latent; but if it continues latent during the rest of the patient's life,

and has no influence either on him or his offspring, what a boon it would be to humanity (as Hebra used to say) if phthisis, cancer, and other diseases could be made latent to the same extent. That the less frequent occurrence of severe sequelæ from syphilis is not entirely due to improved methods of treatment is shown by those cases in which, either from recklessness or indifference, or any other cause, the patient has stopped treatment long before he would have been advised so to do, and yet has for years been free from all symptoms. Although I have not attempted to get the exact figures, I can say that during my fifteen years' experience in charge of the special department at the Boston Dispensary the number of cases that showed late and grave lesions of syphilitic disease compared to those that came for treatment for the early symptoms has been very small. And yet these patients are exactly of the class in which one would expect bad results. That is to say, they are poor, unable to get proper food and care, often of bad habits, and rarely follow out the instructions and treatment given them for the length of time that in private practice would be insisted upon. While, however, the number of cases of syphilis that are followed by serious later symptoms seems to have diminished, or at least to be comparatively small in number, those in which we find evidence of cerebral trouble have decidedly increased. To convince one's self that this is the case one has only to look at the medical literature of the last decade and compare it with that previous to the last — twenty, or even fifteen, years. With regard to the recognition of cerebral syphilis by the older authors there seems to be some difference of opinion. Legrand du Saulle, in the *Gazette des Hôpitaux*, in an article on "Cerebral Syphilis,"

says: "The first notions with regard to the cerebral symptoms in cases of syphilis date back very far. Fracastor and Nicolas Massa even say decidedly that the French disease may be accompanied by insanity and epilepsy." On the other hand, Heubner, in his very complete article in Ziemssen's Cyclopædia on "Syphilis of the Brain and Nervous System," says: "Although Fracastor described so graphically the ravages of syphilis on the face, etc., he knew nothing of the internal diseases of the same patients." He also states that this lack of knowledge with regard to syphilis of the nervous system was due, in part, to the fact that the old practitioners occupied themselves chiefly with symptomatology and therapeutics. This may be very well as far as the Middle Ages go, but when we see that John Hunter classed the nervous system as one of the vital parts which are not at all susceptible to the action of syphilis, and that Ricord, in his classical "Letters on Syphilis," does not refer to this subject, it certainly looks as though not many cases of the kind I am about to report could have come under their observation. As late as 1861 Professor Lasègue, as the result of his investigations, reported to the Faculty of Medicine in Paris that "the nervous manifestations of syphilis are rare, indistinct, and destined, at least until further investigation, to figure in an account of syphilis as an appendix." It was just about this time, that is, 1861–62, according to Heubner, that scientific investigations with regard to cerebral syphilis began to be made. The monographs of Léon Gros, Lancereaux, and Lambuco marked out the path for study, and they were followed in Germany by Jaksh and many others. Fournier in 1879 published his "Syphilis du Cerveau," which, while it may not be

up to the later German authors as far as pathological anatomy goes, is certainly a most wonderful collection of clinical observation. I will merely make three quotations from his preliminary chapter to show his deductions from his vast amount of material as to the frequency of cerebral syphilis at the present time, and ask you to remember that John Hunter considered the brain as non-susceptible to syphilitic disease, and that Ricord does not mention the possibility of cerebral syphilis. Fournier says: "A case of hemiplegia occurring in a subject less than forty years old, not affected by alcoholismus, nor suffering from a lesion of the circulatory system, is, in eight cases, or perhaps even nine cases, out of ten, of syphilitic origin." Again: "When epilepsy manifests itself in a subject over twenty-five or thirty years old, for the first time, in nine cases out of ten it is of syphilitic origin." Finally, according to him, at least seventy-five per cent. of cases of ocular paralysis are due to syphilis. To even give a list of the literature on this subject during the past five years would exhaust your patience, so I will simply state that it is a very rich one, and that whatever minor differences there may be between the different authors, they all agree on one point, and that is that cerebral syphilis, as a rule, is one of the later manifestations, that is, that it is a symptom occurring in the so-called tertiary stage of the disease. Whoever was responsible for the terms primary, secondary, and tertiary did a very poor service to syphilography. From the meaning of the words one would naturally suppose that they were three distinct stages of the disease, one following the other. As a matter of fact, in many cases the primary lesion still exists when the secondary symptoms appear, and secondary and ter-

tiary symptoms are more frequently than not seen coëxisting. I happen to think of a dispensary patient who has now mucous patches of the tongue, such as are frequently seen during the early outbreak of constitutional symptoms, who two years ago had typical muscular gummata. Neither can a distinction be made according to the tissues affected, as not infrequently the periosteum is the seat of the very earliest secondary manifestations. There are, however, two distinct sets of symptoms in syphilis, one of which, as a rule, is decidedly later in its appearance, and these are the symptoms of the different tissues that are due to an inflammatory process, which may range from simple congestion, as in the case of a macular syphilitic, or in congestion of the fauces, through infiltration (papular eruptions), desquamation, and ulceration; and, on the other hand, those that result from the development of a neoplasm, or gummy tumor. It seems to me that if we are to use the term tertiary at all it should be confined to these latter manifestations.

To return, however, to cerebral syphilis. As I have stated, the evidence of the authorities is that it occurs, as a rule, as a late symptom, but in the more recent literature we find that exceptions to this rule are recorded. Fournier gives from the third to the eighteenth year (after infection) as the most common period for cerebral manifestations, and puts two thirds of the cases between the third and tenth year, and one third between the tenth and eighteenth. He says, however, that "cases have been seen during the second or first year of the disease, even as early as the seventh, sixth, or fifth month." "These are, however," he goes on, "I hasten to say, rare facts, and naturally all the more rare as the date of the manifestation is more preco-

cious." Heubner states that from his figures, that is, from the statistics derived from the cases observed and collated by him, it appears that when a syphilitic growth is developed in the nervous system such a growth almost invariably appears at a late period; in fact, when the syphilis has lasted for several, or often many, years. This rule, of course, he says, is not without exceptions. Prof. H. C. Wood, in an article on the "Clinical Aspects of Cerebral Syphilis,"[1] gives a very full account of the subject, more especially with reference to the later manifestations, epilepsy and general paralysis. He says, however: "Although syphilis is most prone to attack the nervous system many years after infection, it would be a fatal mistake to suppose that brain disease may not rapidly follow a chancre."

Legrand du Saulle, in a series of articles published in the *Gazette des Hôpitaux* in 1884 (vol. lvii.) on "Cerebral Syphilis," says: "At what period of the disease do the cerebral symptoms show themselves? In a general way, it can be said, in the tertiary. Ordinarily they show themselves from three to ten years after the primary lesion. But they may be delayed and not appear until after an interval of twenty to thirty years. Sometimes, however, in cases of precocious, malignant syphilis, they form part of the secondary symptoms.

Not to take up time by more quotations, I will state that the mass of authors on the subject agree with great unanimity on the fact that cerebral syphilis is of late development, and that, although there are exceptions, cases which show affection of the nervous centres within the first year are decidedly exceptional. It is this unanimity of opinion that

[1] Boston Medical and Surgical Journal, 1884, vol. cx., Nos. 9 and 10.

has made me think that the five cases that have come under my observation during the last few years, in which symptoms of syphilitic cerebral trouble appeared quite early (the average of the five cases being a little more than five months), were worth reporting. While our standard textbooks give very good descriptions of cerebral syphilis, and speak of the possibility of its occurrence, exceptionally, quite early, they do not sufficiently, if at all, call attention to the indication for the modified course of treatment which such cases, I think, imperatively show. The number of cases reported of precocious cerebral symptoms, while small compared with those in which the cerebral lesions came on late in the disease, are, in recent literature, fairly numerous. Fournier reports a dozen or more. Dr. Webber, in his paper presented to this Society, reported some precocious cases, that is, one of ten months, one eight to nine months, and one a little over three months. I find a case reported in the *New York Medical Journal* (1884, xv. p. 430) as a "Case of brain disease" (probably syphilitic), by Lucy M. Hall, M.D., and it is one of the very few in which a careful autopsy was made and recorded. Unfortunately, it may be objected to the case that it is not absolutely proved that it was a syphilitic one. I will give an abstract of it: The patient was a girl of sixteen, an inmate, I infer, of the Reformatory Prison for Women at South Framingham. The first record is December 1, 1883. No special symptoms, but poor appetite, pale, and nervous. January 24, 1884, some general febrile disturbance, high pulse and temperature, with pain in left temporal region, and vomiting. The pain in left side of forehead was constant, and unyielding to treatment. February

4th small excavated ulcers were noticed on side of tongue, and she was dull, stupid, and somewhat comatose. February 17th, tongue was swollen, left half being half (*sic*) dry, right half moist; the mouth was drawn to right side slightly, and partial paralysis of the facial muscles of the left side was noticed. She died at midnight. The autopsy showed the organs in the pelvic and abdominal cavities to be normal. There was thickening both of the dura and pia, and the cerebral vessels were distended, especially on the left side. Tallow-like bodies, from the size of a millet-seed to a grain of wheat, were found along the surface of the dura in the line of the longitudinal sinus; also in the region of the third frontal convolution on the left side. The bases of the second and third convolutions on the left side were so soft that the handle of the scalpel laid lightly upon them penetrated the brain-substance. Section of the left anterior cerebral lobe showed a partially absorbed hæmorrhagic infarction of the third, or Broca's, convolution, occupying about half its extent. If this was a case of syphilis, the age of the subject, sixteen, shows that it must have been of not long standing.

From Professor Wood I will quote the following cases of precocious cerebral symptoms: Dr. Alfrik Ljunggrén, of Stockholm, reports a case where a rapidly healed chancre in March was followed in May by severe headache, mental confusion, and giddiness. Early in July (four months) he had an epileptic attack. This case was cured. Davaine reports paralysis of the portio dura a month after the first symptoms of constitutional syphilis. Dr. E. Leyden found advanced specific degeneration of the cerebral arteries in a man who had contracted syphilis one year previously. Dr. R. W. Taylor

reports a case where epilepsy occurred five months after infection. Dr. Schwarz's case had severe headache forty days after the development of the primary lesion, and on the forty-sixth day hemiplegia. Another case had an apoplectic attack seven months after the chancre, a female patient one five months after the appearance of her primary lesion. Dr. A. Sydney Roberts's (Philadelphia) case had a fit two months and eight days after the appearance of a chancre, which developed after a period of incubation of twenty-six days. Unmistakable cerebral syphilis followed, but convalescence under active antisyphilitic treatment.

These are some of the cases of early cerebral syphilis that I find record of, and are enough to show that, although rare, precocious cerebral syphilis is recognized. The following cases that have come under my own observation I will report in as condensed a manner as is consistent with calling attention to their important points.

Case I. On July 5, 1878, I was visited by a gentleman for advice. He was a lawyer, aged thirty-eight, reported his health as good, and appeared to be a strong, healthy young man. About two weeks after connection he had noticed a sore on the prepuce, which at the time of visit was a typical primary syphilitic lesion. The induration was well marked and quite large, and the inguinal glands in both groins were enlarged. In the latter part of August he had some soreness and congestion of the fauces, and on September 7th a macular syphilide appeared on his trunk and thighs. The eruption was not a very full one, and was entirely macular. In October he had some manifestations of secondary symptoms on the mucous membranes, that is, sore throat, with some congestion of the fauces,

superficial plaques on the tonsils, and slight lesions on the sides of the tongue. He was put on a mercurial course of treatment from the first appearance of the constitutional symptoms, and seemed to be having a very mild case, until (some time in September) he began to be troubled with headaches, which came on in the afternoon, were aggravated toward night, and became very severe. These were relieved for a time by the iodide of potash, and it did not require very large doses (ten to fifteen grains three times a day) to control them. During October, November, and December I saw him about once in two weeks, and with the exception of an occasional attack of cephalalgia, lasting for two or three days, and yielding to increased doses of the iodide, which, however, never exceeded twenty grains three times a day, he seemed to be doing very well. The eruption had faded out, and the mucous membrane of the throat and mouth was healthy. I have heard since, however, that his friends noticed that he was heavy and sluggish mentally at this time. On December 27th he called, his previous visit having been on the 9th, and while there were no definite symptoms, except a more persistent headache, it was evident that he was not doing well. Besides increasing his dose of iodide, I thought it best to increase the action of his mercurial treatment, and as he objected to the use of inunctions I put him on small and frequent doses of calomel, and he was asked to report in a few days.

I did not see him again, as he came under the care of the family physician after that time, by the kindness of whom I am enabled to condense the following record from his very full notes on the case: —

On January 6, 1879, that is, ten days after I had seen him, while at dinner, he felt that he had lost power over his left leg. It was not completely paralyzed, but he could barely move it, and he was taken up to his room. On being questioned, he said that on the 4th, two days previous, he had noticed a prickly feeling in his right hand, and some loss of power in the fingers, shown by difficulty in using his pen. Also some dull headache. This loss of power in the right hand was more noticeable on the next day, and on the next one, that is, January 6th, the decided, but partial, paralysis of the left leg came on while he was dining with his family. On the 7th, that is, the day after his attack, in trying to get about his chamber he fell, and is reported to have been quite shaken up by his fall. The cause of his trouble being suspected by his physician, he was asked with regard to his previous syphilis, and gave a very good account of his disease, both as to symptoms and treatment. The paralysis of the left leg increased, and his mind became sluggish, although he would answer questions when aroused. The sphincters of the bladder and anus became paralyzed, as was shown by involuntary passage of urine and fæces, and on the 12th it was noticed that there was paralysis of the left facial muscles, the mouth being drawn to the right side. On the 13th complete paralysis of the left upper extremity was evident. His mind was wandering, but he would answer when roused. On the 18th he was delirious, and muttering about matters that he was interested in, and died quietly at 5.30 P.M., twelve days after his attack of paralysis of the left leg. The specific origin of his attack was recognized from the first, and he was given a most thorough antisyphilitic treatment. Iodide of potassium was

given in increased doses, as well as mercurial inunctions.

A careful examination of the brain was made, but the full record of it cannot be found. In the case-book of the attending physician the fact that there was thickening of the pia at both vertices was noted, as well as a partial plugging up of some of the cerebral arteries by means of an apparently new formation. He, however, simply noted these main points, referring to the source where he supposed the full record could be found.

Case II. I saw this patient, a civil engineer, aged twenty-one, first on January 13, 1883. He was tall, thin, not well developed as far as muscular development goes, but reported his general health as good. He consulted me on account of a lesion which had appeared on his penis after intercourse, which proved on examination to be a primary syphilitic chancre. The induration was well marked, as was the enlargement of the lymphatic glands in both groins. Under the topical use of iodoform the chancre healed, and on April 1st a pretty generally distributed macular secondary eruption broke out. There was also at that time some congestion of the fauces. He was put on a mercurial course of treatment, and when seen on April 19th the eruption simply showed some spots of pigment; the mucous membranes were healthy, but there were some small crusts scattered over the scalp.

On the 21st of May I received a letter from him from an inland town, where he was engaged in professional work, stating that he had been for some days troubled with a very severe headache, which was much aggravated at night; that he was very feverish, and felt generally very unwell. I wrote to him to take ten grains of iodide of potassium three

times a day, and to report as soon as possible. On the 24th, that is three days afterward, he came to my office in what certainly seemed a very critical condition. It was with difficulty that he spoke, his mouth being drawn to the left side during articulation, and his gait was very unsteady. He reported that after writing to me his headache was so excruciating, and feeling a decided numbness of his right side he had consulted a local practitioner, and by his advice had taken a cathartic and Dover's powder. On receipt of my letter he had begun on the iodide, and although his severe headache had ceased, as he had great difficulty in enunciation and noticed a decided loss of power in, and control of, his right arm and leg, he had come to see me. In addition to the partial right-sided muscular paralysis he had double vision. His symptoms improved gradually, and by June 15th, three weeks after, he was apparently all right, and has had no relapse since, having been under treatment and observation up to date. He is now doing his work as a civil engineer, is able to do it, and weighs more than he ever did.

Case III. This patient, a student, aged twenty, consulted me July 12, 1883, for a urethral trouble, complicated with an acute epididymitis. He was small in size, pale, and, as far as muscular development goes, decidedly below par. He dated his gonorrhœa back to the middle of the previous December, and stated that shortly after his gonorrhœa had appeared he noticed a sore on the penis, which proved to be a primary syphilitic lesion, and which was followed by secondary constitutional symptoms. These had entirely disappeared by the time of his first visit to me; but from his report, which, by the by, was a very clear one, they must have been quite

mild, and have yielded readily to treatment. His urethral trouble did well, and is of no interest in this connection, but his account of his syphilitic infection was so clear and consistent that I felt it my duty to put him on specific treatment, in the propriety of which I was confirmed by the appearance, later, of slight mucous patches on his tongue. He was doing very well when I saw him on July 28th, and on October 8th, when I saw him after his return from his vacation, he made the following report: On August 26th he had what was considered a sunstroke, as a result of which he was laid up in bed for a week, and was "under the weather" for some time more. On investigation, the "sunstroke" was reported to have come on two days after the supposed cause, that is, playing tennis in the sun, and getting much fatigued. He had had severe headache for some days previously, which was worse toward evening. His first symptom was a feeling of giddiness, in which he stumbled, and felt that he had lost control of his muscles. He had difficulty in articulation, and even when seen October 8th I noticed a decided difficulty or hesitancy in his speech. For some time after he got about he reported a tendency to stumble, and at times a feeling of numbness in his left arm. Under a mixed treatment of a mercurial and iodide he improved in general condition and gained in weight. On November 28th he reported having had for a few days a very severe headache, which ceased at once on increasing his dose of iodide. In February, 1884, he went to the Hot Springs, Arkansas, where he went through a thorough course of inunction, and returned about the middle of April, having gained flesh and strength, and showing no specific symptoms. He is still under observation and treatment.

Although this case was not seen by me, either during the first outbreak of syphilis or at the time of his partial paralysis, I do not see how there can be a question as to the connection of the two. He did show decided and unmistakable symptoms of constitutional syphilis, that is, mucous patches on the tongue, and his account of the appearance of the sore on his penis, in December, followed by constitutional symptoms, which under treatment disappeared, was so precise as to leave no doubt in my mind as to the date of contagion. His account of his supposed sunstroke, eight months afterward, was also very clear, showing that he had had an attack of vertigo and loss of power over his limbs and speech, the latter symptom not having entirely passed off when I saw him about six weeks later, which attack was referred to an exposure to the sun and fatigue, two days previously. As additional evidence, there is the fact of these attacks having been preceded by headaches, with nocturnal exacerbations, and that since then he has had headache of the same nature, which has yielded at once to a course of iodide of potassium.

Case IV. A mechanic, aged thirty-eight, consulted me on January 2, 1884. The patient was a tall, heavily framed man, but very much reduced in flesh and anæmic. About the middle of the previous August he had a sore appear on his penis, which was at first supposed to be a chancroid, but it was followed by symptoms of constitutional syphilis, and as he did not agree with his physician's diagnosis he put himself under the care of one of our quack institutes. When seen he showed marked symptoms of quite severe secondary syphilis. He had a very generally distributed papular, crustaceous eruption on his trunk, limbs, and scalp, as

well as decided mucous patches on his tongue and tonsils. What he complained of most was an excruciating headache, worse at night, which had continued for some days. He reported that on several occasions, while at work, he had had "giddy spells," in which he had stumbled about, and two or three times had actually fallen down. At these times he had lost the power of speech, by his report, and in this respect he was confirmed by the gentleman, one of his employers, who brought him to see me. He was heavy and dull, and was evidently suffering from severe pain in his head at the time of his visit. He was put on a course of mixed treatment, that is, the bichloride of mercury and the iodide of potassium, and the lesions of the cutis and mucous membranes improved at once, but his cephalalgia was more obstinate. It did yield, however, to inunctions, combined with the iodide, but as his gums showed decidedly the action of the mercury these had to be suspended. He also showed a sensitiveness to the iodide, having a very copious eruption of acne on his back and chest, as well as on his face, and a decided coryza. By carefully regulating the dose, however, he was kept on a mixed treatment, and by March 12th, about two months after he was first seen, he had gained twelve pounds, and his headache was reported to be a thing of the past. He is still under treatment, apparently well, and able to do his work.

Case V. I first saw on May 23, 1884. The patient was a thin, nervous man, aged forty-three, interested in manufacturing, and evidently much upset by the trouble for which he sought advice. A few days after exposure he had noticed a lesion on the glans penis, which he had treated by an application of strong carbolic acid. The result was

an inflamed, indurated sore, covered by a sloughy, whitish eschar, with some glandular reaction in both groins. As, owing to the artificial irritation from the application he had made, the diagnosis was rendered doubtful, no decided diagnosis was given. Under soothing local treatment the acute inflammatory condition passed off, but even after the sore had healed some induration remained, and the inguinal glands, instead of diminishing in size with the subsidence of the inflammation, became larger. On July 5th (six weeks after he was first seen) he had a quite fully developed macular syphilide, and was put on a mercurial course. The eruption was simply macular, and disappeared rapidly, as on the 19th, that is, in two weeks, no traces of it were to be seen. As his symptoms disappeared his fussiness about himself seemed to increase, and it was with the greatest difficulty that he was made to continue his treatment. On October 2d, while showing no symptoms, he complained of having had, on two occasions, very severe headaches, and was ordered the iodide of potassium in addition to his mercurial. He was seen three times between then and the 28th, when he protested so strongly against the iodide, which, he said, he was sure did not "agree with him," as he had omitted it for a day or two at intervals, always with good results, that I stopped it, and substituted a simple tonic. I was induced to do this as, although he had more or less cephalalgia, he insisted that it was not constant, or aggravated at night, and felt sure that it was connected with indigestion, which he laid to the iodide. On the 30th, two days afterward, he entered my office, and I thought he would tumble on the threshold. He stumbled into a chair, and, after a good deal of twitching of his mouth, managed to articulate, "I

am paralyzed!" After a few moments' rest his articulation improved, and he was able to give an account of himself, but there was undoubted partial paralysis of the muscles of speech, and his mouth was drawn, in speaking, to the left side. He said that he woke up that morning with a feeling of numbness in his right arm and leg, and difficulty of speaking. There seemed to be a loss of power in the right arm, as tested by the grasping-force of the hand, and the right leg seemed to drag in walking. His difficulty in speaking was, however, the most marked symptom, and although that improved after he had been sitting quietly in my office, it was very decided. His condition was almost an exact counterpart of Case No. II. As he was a stranger, at a hotel, I advised him to take a room at a hospital, and he was admitted to the City Hospital, and came under Dr. Webber's care. Dr. Webber has reported his case before this Society in full, and as it will be published in the coming report of the City Hospital, I will merely say that under mixed treatment the patient recovered, and that I have seen him since, free from specific symptoms and apparently well.

These five cases, which, excepting the first, which occurred in 1878, have been seen in my private practice during the past two years, showed symptoms of cerebral trouble, coming on during the early period of syphilitic infection, respectively six, four and a quarter, eight, four and a half, and five months from the appearance of the primary lesion, or on an average of five and a half months. They all were preceded by severe cephalalgia, all showed partial paralysis of certain muscles, and, with the exception of the fatal case, all yielded quickly to treatment. With one exception, Case IV., they were cases in

which the manifestations on the skin and mucous membranes were decidedly mild and of short duration. It is perhaps fair to assume that if Case IV. had continued under regular treatment, instead of getting into the hands of a quack, his secondary symptoms might not have been as severe as they were when I first saw him. They certainly disappeared very quickly after he came under my care. I refer to the mildness of the secondary symptoms in these cases, as it confirms the statistics which other observers have collected, which go to show that in the majority of cases where cerebral symptoms show themselves early the previous manifestations have not been of a severe type. I think, however, that it would be very far from the truth to infer, on that account, that the fact of a case of syphilis showing a mild and benign type, as far as the manifestations on the skin and mucous membranes go, is an indication that cerebral trouble is to be anticipated; in other words, that a mild course of development of the constitutional symptoms is a bad feature in a given case. This is far from being so, as a large number of the cases, which run a mild course and in which the symptoms disappear quickly under treatment, not only do not have any cerebral trouble, but are exempt from relapses of any kind. In all five of these cases headache was a prominent premonitory symptom, and, moreover, a headache having certain well-marked and definite characteristics, such as its decided tendency to exacerbations toward evening, its severity, and its very quick yielding to the administration of the iodide of potassium. While cases of early cerebral specific trouble are rare, cases that complain of cephalalgia, exactly identical to that described, are quite frequent. I have seen many that I am convinced

would have resulted in cerebral trouble had they not been recognized and properly treated. The proportion of these cases in dispensary practice is much greater than those observed at my office, and as the former class of patients are much less under control, to say nothing of their being so situated that they are unable to get proper care, nourishment, etc., and do not follow out the instructions given, it is not to be wondered at that such is the case. The fact that in patients who are careless or unable to follow up the treatment prescribed the symptom of early syphilitic cephalalgia, with the possibility of the occurrence of cerebral symptoms, is comparatively frequent, is of course a strong proof of the need of regular treatment as a safeguard, to say nothing of giving the patient relief from what is at times an excruciatingly painful symptom. The appearance of a patient who has been suffering for some days from this specific headache is very characteristic. Even if seen early in the day, before the attack comes on, they show a worn and wearied expression. I have not been able to corroborate the statement made by some of the writers on this subject that these headaches are usually confined to one half of the head. On the contrary, my experience has been that they are either frontal or occipital, in the early stages chiefly the former. Some patients describe the pain as feeling as though there was a great pressure inside the skull, or, as one expressed himself, as though his "whole brain had swollen, and was too big for its box." Others, again, refer the pain more to the exterior, and even complain of tenderness to the touch of certain points of the scalp.

Prof. LeGrand N. Denslow, in the *Northwestern Lancet*, May 1, 1885 (vol. iv. No. 14), reports four

interesting cases of "Persistent headache in early syphilis," in all of which the phenomena were observed within six months from the appearance of the chancre. In one of the cases, where treatment was neglected, complete hemiplegia, with aphasia, came on, and, although the patient recovered, at the end of a year there still remained marked hesitancy in speech. He got excellent results in these cases, as early as two or three days after commencing treatment, by administering minute (one twentieth of a grain) doses of calomel hourly. I will refer later to this question of treatment.

With regard to the influences which may act as predisposing causes in producing cerebral symptoms in syphilis, the writers on the subject, especially Fournier and Heubner, have made thorough investigations. Beyond the influence of the weak spot, the *pars minoris resistentiæ*, they find that excesses in venery, abuse of alcohol and tobacco, great fatigue either physical or mental, mental griefs or shocks, etc., may act as such. In the cases I have reported nothing of especial interest in this line of investigation is to be noted.

The *diagnosis* of these early cases of cerebral syphilis is very much simplified by the fact that they occur either while the symptoms of constitutional infection on the cutis and mucous membranes are still apparent, or so shortly afterward that the fact of the patient's having recently had syphilis could not very well be ignored. Their diagnosis, however, by no means depends on this point of time alone. The fact that the attack had been preceded by the characteristic headaches which I have described would be of importance. The muscular paralysis in these cases is always, at first at least, an incomplete one; loss of power or of control of

one arm or leg, or both, is first noticed, and this gradually increases. A certain amount of aphasia, or rather a hesitancy in speech, seems to be a pretty constant symptom. The comparative youth of the patient in many cases is of diagnostic value. Lastly, the fact of the symptoms improving under specific treatment would, of course, decide the question. The lesion which is most likely to be confounded with these early cases of cerebral syphilis is an embolus of a cerebral artery. In such a case, however, the symptoms of paralysis would come on more suddenly, be more complete, and there probably would be some indication of the cause of the embolus.

While the *pathology* of cases of late cerebral syphilis has been very thoroughly studied by the French and German pathologists, these early cases have not been, or at least I have not been able to find much on the subject. The important point, practically, is to know whether these cases are the result of a precocious development of the neoplasms which, as a rule, are only found in the later stages of the disease, or whether the symptoms are produced by a simply temporary, inflammatory process affecting the meninges of the brain itself, which corresponds to the macula on the cutis, and the superficial mucous patches of the mucous membranes, and which leaves no structural alteration behind it. Heubner, with the characteristic caution of the German scientific observer, who refuses to go one step beyond the path which his scalpel cuts out for him and his microscope illuminates, says, with regard to this point, that "while not denying the possibility of intercranial simple inflammation of syphilitic origin existing, neither originated nor accompanied by a new formation, the cases so far

reported are not sufficient to justify it, and for the present it must be regarded as an open question." From a clinical point of view it seems unlikely that these cases of early cerebral syphilis, which show themselves simultaneously with symptoms on the skin and mucous membranes due to simple inflammatory action, and which yield almost at once to treatment, should be caused by a different pathological process in the nervous system from that which is manifest elsewhere, and the question presents itself, whether in the same way, as we see at an early stage of the disease, the periosteum of certain bones, such as the sternum, the clavicles, and the tibiæ, become tender, painful, and swollen, all of which symptoms disappear rapidly under treatment, the same thing may not take place in the dura, and by pressure give rise to the cerebral symptoms noticed.

Fortunately, when we come to the question of *treatment* of these cases we leave all regions of uncertainty and doubt, for if there is one proved fact in medical science it is that in the iodide of potassium we have a specific in the true sense of the term. Of course, there are exceptions to every rule, and more especially so in medicine, but in spite of the many examples I have seen of its efficacy I am constantly astonished at the almost immediate result of this drug in cases of syphilis where its use is indicated. Time after time patients will come, complaining of the most excruciating headache, which has been torturing them for weeks, and on the second day they will report themselves as absolutely freed from their trouble. The importance of giving the iodide in all cases of syphilitic headache as not only a means of saving the patient from great suffering, but as a prophylactic against more serious cerebral

symptoms in the future, is, I think, the most important practical deduction to be drawn from the cases I have reported. While I would insist upon the use of the iodide in these cases, I would by no means be understood to deny the importance of a mercurial course. On the contrary, if we want to give the patient the full benefit of treatment, and, more especially, guarantee him as far as possible from relapses, the adjuvance of a mercurial which should be continued even after all indications for the iodide have ceased is absolutely necessary. The old dictum — secondary, mercury; tertiary, iodide — no longer holds. The fact is that in mercury properly administered we have a true specific for the treatment, and I think I can venture to say for the cure, of syphilis in whatever stage or period it may be, where its use is not contraindicated, while in the iodide of potassium we have an equally powerful specific to use against *certain symptoms*, at the head of which stand those affecting the brain. I have not found that it has been necessary in these early cases to push the iodide to the very large doses that we see reported; ten, fifteen, or twenty grains three times a day will generally show decided results. On the other hand, I have seen cases where the patients had been doubling up on their doses of iodide and getting daily worse, improve most decidedly on having the iodide cut down to a very moderate amount and a mercurial added to it. Where the mercurial is administered internally it is well to combine the iodide with some simple bitter, and have it taken just before meals and the mercurial after. In cases, however, of present or threatened cerebral trouble a more rapid and thorough action of the mercurial is indicated, and inunctions are very efficacious. The method mentioned by

Dr. Denslow of giving small and frequent doses of calomel will act even more rapidly than inunctions, but the patients must be watched very carefully, as the chances of salivation must be taken into consideration. It may be asked why, if the treatment by inunction is the most successful one, not always use it? To this I would reply that, in point of fact, most patients do very well under internal treatment. I am referring now to the general treatment of syphilis, and as long as they do so it is just as well to reserve our most powerful weapon for any emergency that may arise. Moreover, the process of inunction is so dirty and troublesome that few patients, in my experience at least, can be kept on it for any length of time.

With regard to the prognosis of these cases of early cerebral syphilis it is, of course, too soon to draw any deductions from those I have reported. One of them, Case II., seems absolutely well, but it is only two years since his attack, and, of course, too soon to feel sure as to the future. That cases in which such serious symptoms show themselves so exceptionally early should be warned as to the need of their giving themselves the full benefit of careful life and regular habits there can be no doubt. Fortunate as we are in the possession of methods of treatment, which in many cases will overcome the threatening symptoms, we must feel that there is always a possibility of permanent injury having been done to one of the most important of the vital organs.