

Lectures.

SYPHILIS OF THE BRAIN AND MEMBRANES.

LECTURE I.

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL, OCTOBER 3, 1883,

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REPORTED BY WILLIAM H. MORRISON, M. D.

GENTLEMEN,—I propose devoting a few lectures to the consideration of cerebral syphilis. You have probably heard no didactic lectures on this subject, which is one of the most important in the whole range of nervous diseases. I believe that there are in these United States hundreds of people filling insane asylums and grave-yards prematurely because this affection is not recognized. As many of you have heard no regular lecture on cerebral syphilis I shall take the liberty of considering the subject somewhat didactically, using the cases for the purpose of illustrating and enforcing the important points to be remembered about this disease.

It so happens that I am able, in beginning the consideration of this affection, to show you a brain which was taken from a patient who died very suddenly a few days ago. The story of this case is that the man, F. B., aged sixty-two years, was a shoemaker, and had, during the last weeks, been in the out-wards of this institution, working at his trade. I wish you to note this point, that he was able to work with a lesion in his brain, which was undiscovered until suddenly the man died. A lesion was left to itself, necessarily lethal, but which might have been cured. On the 23d of August, we are informed, this man lay all day on a bench in a sort of stupid state. This is very interesting, for, as you will learn later, excessive somnolence is one of the most characteristic symptoms of cerebral syphilis. On the day following it was noticed that he frequently put his hand to his head as though in pain. There also seemed to be a partial loss of power in the lower extremities. The stupidity and pain in the head continued for three or four days, but did not attract enough attention to cause the man to be sent to the hospital, but suddenly he dies, and is received in the dead-house.

Here is a half of the brain. In the Sylvian fissure, at the position which I indicate, the membranes have grown fast to the brain. The brain and membranes are united together into a dense, whitish mass, which microscopical examination shows to be made up of small cells without any very regular shape, and among them are some large multi-polar cells. Beneath this mass is a large patch of brain inflammation and softening. I do not propose to go into the minute histology of cerebral syphilis, but only so far as is necessary to explain certain important clinical facts which bear upon the symptoms.

In the first place let me call your attention to the fact that in the great majority of cases cerebral syphilis originates, as it has here, as a disease of the brain membranes, and not of the brain substance; that even when a specific gummatous tumor destroys a portion of the brain substance the tumor originally started from the brain membranes; that the membranes are

primarily united with the tumor and form a portion of its substance, making the base from which it grows.

The next point in pathology which is illustrated to a certain extent by this specimen is that these tumors usually occupy the exterior of the brain. Sometimes a syphilitic tumor exists in the ventricles. I have seen cases where the tumor rose from the velum interpositum. The symptoms are then somewhat different from those which appear when the growth is on the outside. Very frequently the tumor develops in the fissure of Sylvius, where the membranes are abundant, and dip in between the lobes.

We find these tumors, or, as they are more properly called, exudations, in two particular forms. Sometimes they are irregular, globose, or lobate, as in the specimen before you. Sometimes instead of forming a distinct tumor they exist as a wide-spread exudation without any regular shape. A gummatous nutritive change at the vault of the cranium usually takes the form of an irregular, more or less illy-defined, tumor, while at the base of the brain the lymph is more spread out and tabular, so to speak.

I next approach the symptomatology of cerebral syphilis, but before taking up the symptoms I wish to refer to a single point. It is that the symptoms are due to a foreign body in the brain; in other words, there is nothing in the symptoms which is absolutely pathognomonic of cerebral syphilis. The more or less characteristic manifestations are not characteristic because the tumor is due to cerebral syphilis, but because cerebral syphilis especially haunts certain regions. For instance, if the symptoms denote an exudation at the base of the brain they simply indicate the seat of the lesion, but not its nature. We know, however, that exudations at the base of the brain occurring in adults who are not tubercular are, in ninety out of every hundred cases, due to cerebral syphilis, so that if there are symptoms of exudation in this situation we are almost certain that the brain disease is the result of cerebral syphilis. In the same way we know that syphilitic lesions are very common in the upper surface of the brain. If we have symptoms of a tumor high up we know that the probabilities, if the patient is past middle life, are in favor of brain syphilis. The symptoms are not pathognomonic, but they are often very characteristic because they indicate the existence of gross lesions in certain regions of the brain.

In regard to the ætiology of syphilitic lesions of the brain, the fact that you obtain no history of syphilis is no reason for believing that the disease is not due to syphilis. Why it is we do not know, but certainly clinical facts show most positively that serious nerve syphilis is most apt to follow the lightest primary sores, and that where there are severe secondary symptoms serious cerebral disease rarely occurs. I of course leave out of consideration those cases in which the disease attacks the bones of the skull, producing secondary disease of the brain. I repeat this. In the majority of cases where brain trouble of the character of which I am speaking develops there has been very slight primary trouble.

To illustrate this point I have brought here two cases which are probably suffering from cerebral syphilis, and yet in neither of them is there a distinct history of primary disease. In one of them there is apparently a very distinct history that primary trouble has not existed. I want you to have firmly fixed in your minds the fact that a negative history is of no

importance, while, of course, a positive history is of the greatest importance. If there is a history of distinct secondaries with the regular march of the disorder it will be an important aid in arriving at a correct diagnosis, but in very many cases you will find that the primary lesion has been slight and followed by slight secondaries, or that the patient denies altogether the existence of primary disease. Of course patients often deny this thing from willfulness, but many deny it not from willfulness but from ignorance. A case which I shall bring in acknowledges having had gonorrhœa, but positively denies that he ever had a chancre or chancroid. I see this thing continually in private practice. I have seen a number of cases in men occupying the highest positions of life, with healthy families, without any past history of specific trouble, with no history of a primary sore, and who have noticed no secondary symptoms, and yet undoubtedly the victims of cerebral syphilis, their whole lives depending upon the acumen of the physician in recognizing the true nature of their disease. Where, during any period of life, there has been exposure to the possibility of getting syphilis the mere fact that syphilis has not shown itself is not proof that the patient has not got it. It is in these cases that we see the finest and strongest brains melt down as if burnt out by a flame of fire, a fire which could have been extinguished if the physician had but recognized the nature of the trouble. I may seem to be too emphatic in regard to this matter, but I am so because the secret of success in treatment lies in the primary diagnosis.

In these cases the original disease usually dates far back. The primary lesion occurs it may be in youth, and the man reaches the age of forty, fifty, or sixty before the Nemesis of his misdeeds, in the form of a severe attack of cerebral syphilis, overtakes him. There are, however, cases in which nerve syphilis has developed almost immediately after the primary lesion. I have known one case in which within one month after the appearance of the chancre the patient was seized with numbness in the little finger and ring finger of one hand. The nature of the affection was not recognized, and the numbness persisted. Five or six weeks later the man had a violent epileptiform attack. There was a case of so-called precocious nerve syphilis. As a rule, ten, fifteen, twenty, or, as in one of my cases, thirty years intervene between the primary sore and the development of brain syphilis; but I have seen it several times within six months, and I have had a number of instances between three and eight months.

To sum up, we learn that the most important facts to remember are that cerebral syphilis is especially prone to follow light primary and secondary symptoms; that very frequently it occurs in persons who think that they have never had syphilis, — such persons may have had gonorrhœa with a concealed chancre, or they may have had a slight chancre which healed in a few hours, and was followed by very slight secondaries which have not attracted attention; and that usually it is a late phenomenon, although it may occasionally develop early.

We do not know what makes the syphilis attack the brain in these cases. There is a case reported in a French journal published in Bordeaux in which a man developed cerebral syphilis after an attack of sunstroke. Sunstroke, as you know, tends to produce inflammation of the membranes, and this inflammation once excited would be very apt to take on a syphilitic form.

Again, traumatism is sometimes followed by cerebral syphilis. There are a number of reported cases in which blows on the head have produced an outbreak of cerebral syphilis. I have had two cases in which syphilitic disease of the spine has followed an injury. Fournier and Buzzard believe that cerebral syphilis is especially prone to occur in those who use their brains to a great extent. It is possible that over-use of the brain may have some tendency to develop cerebral syphilis, but I think that it must be a very slight factor. Two thirds of the patients with nervous disease whom I see in this house have some form of nerve syphilis, yet very few of these people, if they have any brains, have ever used them. While occasionally there seems to be some exciting cause for the development of the lesion, yet in the great majority of cases we cannot say why it is that the disease has expended itself on the nervous system.

There are two distinct methods of development of symptoms. In some cases the disease declares itself suddenly, while in others the onset is gradual. The mass which I have shown you in this brain has not developed all at once. It has been growing for months, and probably for years, and yet in this case no one suspected anything wrong with the man, who was able to work with this large mass in his brain, until suddenly he was taken ill. A physician was called, and in a day or two he was dead. There you have, what is very frequently seen, a sudden outburst of symptoms. It is a very peculiar fact that a gummatous exudation, mass, or tumor, may go on developing for years without producing any symptoms, until suddenly the patient will be swept down by an outburst of symptoms.

In this woman whom I have brought before you, I do not know whether the disease is specific or not, but I do know that she has a basal growth of some kind; that she has been married to a drunken, worthless, husband; that she has lived a miserable, wretched life, and that her own habits as regards the use of alcohol have not been what they should have been. The chances are greatly in favor of her having been exposed to the cause of specific disease. The past history, and the knowledge that she has a growth at a part of the brain where these growths especially arise, renders it extremely probable that this is a case of specific disease. You see that I do not make a positive but only a probable diagnosis, and that is all that can be done in the majority of these cases. Let me here give you a practical point in regard to your own bearing. I have come to consider the history given by patients so worthless that I rarely inquire for it. If you are called to a man in a high position in life, a banker, a judge, or a preacher, you may be little better than a fool if you take the man back into the dead and rotten past and rake up memories which had better be forgotten. You have in your own hands the touchstone which will enable you to determine with sufficient certainty for all practical purposes whether or not the disease is syphilis. There are cases in which it is better not to ask, and if you habitually trust the statements of patients you will sometimes be misled.

I have brought this woman before you to illustrate the suddenness with which the explosion of the disease may occur. She asserts that she was perfectly well until one day, when she suddenly became blind. She has not had the symptoms of a clot, but those of a growth at the base of the brain.

This second case, the man suffering from headache

and progressive hemiplegia, illustrates one or two points to which I have referred. In the first place, in regard to the man believing that he has never had specific disease. He admits that he has had gonorrhœa, but denies all specific trouble. In the second place, it illustrates the point that the symptoms may come on gradually. The history of this man is that for eleven months past there has been a gradual loss of power in one arm, one leg, and one side of the face. I want you to remember what I have said in regard to the symptoms of cerebral syphilis being chiefly the symptoms of a gross lesion in some part of the brain. There may be monoplegia, hemiplegia, or paraplegia, according to the seat of the tumor. In this man there has been hemiplegia which has developed gradually. What does this slow development mean? It always means that there is some growing, progressive lesion. When there is a progressively developing hemiplegia there must be a progressive growth. The symptoms only indicate that this man has something growing in his brain. Whether the growth be syphilitic or not must be determined from other circumstances.

We have learned that the symptoms of cerebral syphilis are those of a gross brain lesion of some kind. If the tumor is over the centres which preside over word memory and word thought, or, in other words, if the tumor is down in the Sylvian fissure, pressing upon the island of Reil, there will be aphasia. If the tumor or growth is, as frequently it is, at the base of the brain, there will be paralysis of the parts coming from the base of the brain, and especially of the nerves which supply the eye. Basal growths not tuberculous, paralyzing the oculo-motor and other nerves supplying the eye, are rarely anything else but syphilitic. Syphilitic basal growths are very frequent. Remember, then, that centric squint, dilatation of the pupil, ptosis, and paralysis of the ocular muscles are in an adult almost certain evidence of cerebral syphilis.

Palsy of the facial nerve, however, has no such significance. You know the course of this nerve: at the base of the brain it is exposed like the other nerves to the effects of cerebral syphilis, but it so happens that the facial nerve passes through a long bony canal, and that it is very prone to rheumatic and other affections of its sheath, which cause swelling, pressure, and consequent paralysis. In nine out of ten cases peripheral palsy of the face is not due to syphilis. Trigeminal palsy, or palsy of the sensory nerve of the face, is sometimes, but not commonly, the result of syphilis. Occasionally *anæsthesia dolorosa* is produced by syphilis. This is a condition in which there is a loss of sensibility of one side of the face associated with the existence of exquisite pain. The affection results from a lesion of some kind within the skull pressing upon and at the same time inflaming the trigeminal nerve. There is loss of sensation because the nerve is pressed upon, and there is pain because the nerve is inflamed inside of the point of pressure. The sensation is referred to the peripheral distribution of the nerve.

The sudden attacks may involve, as they did in the woman I showed you, the special senses. They however usually affect the brain as a whole, and there are sudden epileptiform attacks, constant headache, meningitis, or a sudden attack of congestion of the brain, which may be of the nature of apoplexy, with or without hæmorrhage.

In this fourth patient we have the statement that

five years ago, when he was thirty-five, he had a sudden attack of epilepsy. When epilepsy comes on for the first time after the age of thirty it is almost always due to some gross lesion of the brain. I have never seen a case of epilepsy developing in an adult, in which some brain lesion, such as softening or a tumor, or something that the hand could be put on, could not be found.

Returning to our first patient, we find that in addition to the blindness, she is suffering from trigeminal palsy. Under treatment the palsy has diminished, but it is still quite marked. At first a pin could be introduced against the cornea without producing any reflex, and without her knowing it. There is, at the same time, paralysis of the facial nerve. She cannot entirely close the eye. When I saw the case for the first time the left eye was enormously swollen, and there was great chemosis in the cellular tissue in front of the eye. The eye-ball was protruded to such an extent that I at first thought that there was something growing in the orbit. When I returned from my vacation I found the eye-ball shrunken and the tumor all gone. The woman had simply paralytic ophthalmia due to the palsy of the trigeminal nerve. The protrusion was so great as to justify the diagnosis of a malignant tumor springing from the orbit, but was due simply to the intense congestion and inflammation of the cellular tissue surrounding the eye-ball, with affection of the eye.

Turning again to the patient who developed epilepsy in adult life, I desire, as I may not have the patient before you at the next lecture, to point out one very curious symptom, which is almost characteristic of cerebral syphilis. About four or five months ago the man became suddenly deaf, and it was only by yelling in his ear that he could be made to hear. This came on without any discoverable cause, and within a few hours, continued two or three days, and then he began to regain his hearing and, without any apparent reason for so doing, in forty-eight hours he could hear as well as before. On questioning him, I find that he has had another curious symptom. For two or three days he lost the power of speaking. This went away suddenly. He says that he could not think words. He has had, in other words, a temporary, paroxysmal aphasia, as well as a temporary paroxysmal deafness. There are cases of a sudden loss of power in one arm, coming on within a half an hour, and after lasting for a few days passing away. A few weeks later there may be numbness of the foot, developing into a hemiplegia lasting a few hours and followed by a gradual restoration of power. Then there may be an epileptiform attack with loss of power in one side, which is rapidly recovered from. It is rare that the organs of special sense are involved. In this man you have an instance of what I have never before met with, that is, paroxysmal deafness. The important fact to be remembered is that these inexplicable, sudden, varying, temporary nerve attacks, when not dependent on hysteria, are very characteristic of cerebral syphilis. They are dependent on the fact that cerebral syphilis is prone to develop with great rapidity after a period of latency, and to cause sudden and violent congestions in proximity to the tumor. In this man there was congestion of the higher brain, and a discharge of nerve force producing an epileptiform attack. At another time a sudden congestion and drowning out of the sense of hearing; and again, a sudden blush of congestion, affecting the

island of Reil, and word power was lost. In another case the cortical centres of motion in the arm are involved; or it may be the centres controlling motion in the leg, or it may be the powers of the brain which are connected with movements of the eye which are affected, producing a temporary monoplegia, or a squint, ptosis, or dilatation of the pupil, according as the case may be. These strange, unaccountable, temporary attacks of paralysis, now here, now there, are very characteristic of cerebral syphilis, provided hysteria is excluded. The difficulty comes in when hysteria and syphilis are associated.

There is one peculiar symptom of this disease which I have not yet mentioned because none of these cases illustrate it, that is, a strange somnolence. If you are called to a case, and find that the patient sleeps hour after hour, or day after day, and if on examining him there seems to be nothing the matter, the chances are greatly in favor of his having cerebral syphilis. You may also find a history of past headaches, or of epileptiform attacks, or if, on examining the eye ground, which you should always do in doubtful cases, you find choked disks, you know almost certainly that the disease is cerebral syphilis. Sometimes instead of somnolence there may be sleeplessness. Sometimes the sleeplessness precedes the somnolence. Sleeplessness occurs in almost all forms of brain disease. Somnolence is rare. It occurs in pachymeningitis, which is, in fact, very often due to syphilis, and in the gradual softening of the brain in old people. Excluding these diseases, this symptom is very characteristic of cerebral syphilis. I saw a case last week of headache, general loss of mental and physical power, and oculo-motor palsy, and the patient stated that before he had any severe symptoms he would go to sleep over his work. He would have to quit work and go home about four o'clock in the afternoon. He would then go to sleep about five and sleep until nine or ten the next morning. If he had been seen at this time, the proper diagnosis made, the touchstone applied, and the necessary treatment instituted, long years of disablement would have been avoided.

There is only one other point in reference to the symptoms of cerebral syphilis to which I shall call attention to-day, namely, that very frequently an acute attack of meningitis will be lighted up by cerebral syphilis. A man has, it may be, a chronic meningitis. He begins to have headache, which is nearly always present in cerebral syphilis. He goes to his work, is suddenly taken sick, has high fever, becomes maniacal, and is hurried off to an insane asylum, suffering it is said from acute mania, and dies,—dies of the epidemic of ignorance which prevails to such an extent among many physicians.

Probably you will remember this better if I relate a couple of cases. A young man came home one afternoon and sat down in his store, which was connected with the house. After sitting there a while, he suddenly commenced to scream. He was carried up-stairs, and he began to have convulsions. A believer in homœopathic dilutions was called, and ordered him the one thousandth part of nothing. The consequence was that every time the man was given the dose he went off into a convulsion, and the hard, rapid pulse and high temperature continued. A physician was then sent for, and at first glance thought that it was a case of hysteria, and proceeded to give an assafoetida injection. The moment the syringe touched the anus such a convul-

sion was excited that the doctor went one way and the patient another. The physician then recognized the true nature of the attack and diagnosed acute meningitis. He bled the man twenty ounces, and he became quiet. The patient was carefully watched, and when the convulsions recurred ten or twelve more ounces of blood were removed by cupping, and he again became quiet. The man was bled altogether at least thirty ounces. The result was that the next morning instead of being in an ice box the patient was awake and rational. When he became strong enough to attempt to get up, a slight hemiplegia was discovered. The hemiplegia was incomplete, and it was not probable that it was due to a clot, for a clot after such an attack would be large enough to produce complete hemiplegia. I saw the case a day or two later and diagnosed it as one of cerebral syphilis. Under proper treatment the man rapidly recovered, but before he did get well the sign of the beast came out, not on his forehead, but on the palm of his hand, in the form of a patch of psoriasis.

Some years ago I saw a case at the University Hospital, which I diagnosed as cerebral syphilis, gave the man iodide of potassium, and sent him home. That night the man became unconscious and furiously delirious. A doctor afflicted with ignorance was sent for and diagnosed strychnia poisoning, and treated him for strychnia poisoning for four days. The man got no better, and it was thought well to send for the doctors who were asserted to have given the strychnia. The man of course died, and the autopsy revealed the correctness of the diagnosis which I made as soon as I saw the patient, namely, acute meningitis supervening on the chronic disease.

Original Articles.

TWO CASES OF PARAPHASIA. ONE WITH AUTOPSY.¹

BY DR. S. G. WEBBER, M. D.

THE following case is of interest clinically and pathologically on account of the peculiar form of disturbance of speech associated with lesion of the supra-marginal convolution, and on account of the pathological changes elsewhere.

Mr. — was attacked suddenly with an inability to make himself understood. He was seen by Dr. Bundy, who gave me the particulars of the attack. There was no paralysis of the limbs. The patient could articulate perfectly, could put words together, and made an effort to talk, but the words were not used in their right relations. Wrong words were substituted for those which he evidently wished to use. Writing and reading were not tested.

Two or three days after he entered the hospital under Dr. Denny, who kindly gives permission to use the record, he was unable to talk much, and gave no history of himself, except that he complained of a feeling of pressure on the left side of the head, and a slight pain in the same region. There were no local symptoms. He was rather excitable, and was said to have attempted suicide. A double-edged knife was found on his person.

He slowly improved, talked better when he was ex-

¹ Read before the Boston Medico-Psychological Society.