

Robbins (H.A.)

CEREBRAL SYPHILIS.

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CEREBRAL SYPHILIS; INUNCTION TREATMENT.

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I AM very glad that this patient puts in an appearance today, as I wanted to make some more remarks on cerebral syphilis, and it is not often that this manifestation of the disease can be seen at a dispensary service. This man for several months has been under the observation of Dr. Arwine, and we are indebted to him for influencing the patient to come to us.

Two years ago I became interested in syphilis of the brain, and published an article on the subject. Since then I have continued my investigations, and have collected much valuable material.

You notice what a wonderful improvement has taken place in this man's condition. Now he does not appear to drag his leg at all, and his arm swings naturally by his side. We are more than pleased; the improvement has exceeded our expectations. You notice that there are scars on his forehead—souvenirs of the ulcerative pustular syphiloderm that covered the upper portion of his face and scalp. What are the changes which have taken place in his brain, resulting in hemiplegia?

The other day I picked up Aitken's Practice of Medicine, edition of 1868, and looked for the special lesions of the brain causing hemiplegia, viz.:

"1. Obstruction of a principal cerebral artery by a plug of fibrin detached from an excrescence on one of the aortic or other valves of the heart, the result of a former endocarditis (Kirkes and Virchow).

"2. A coagulum in an artery, resulting from some altered nutrition of its wall, and connected in general with a rheumatic or other morbid state of the blood.

"3. A softened state of the brain, such as the condition known as white

softening, which follows the retardation and diminution of cerebral circulation by diseased arteries, or by the complete stoppage of an artery by a plug.

"4. Apoplexy, induration, or tumors, *e. g.*, tubercle or cancer in the parts indicated above."

Aitken gave an exact representation of the ravages caused by syphilis, without suspecting that to it could be attributed the lesions he so truly described. It is fully equal to that of Professor Heubner, who in 1874 described certain lesions as characteristic of syphilis. He mentioned fibroid indurations, and the syphilitic tumor known as gumma, and certain changes in the arteries. "In the cerebral arteries, the changes produce opacity and marked thickening of the vessel, with considerable diminution in its caliber. It is this diminution of the lumen of the vessel which is especially characteristic. When transverse sections of the vessel are examined microscopically, the principal change is seen to be situated in the inner coat. This coat is considerably thickened by a cellular growth. The growth, which is limited internally by the endothelium of the vessel, and externally by the membrana fenestrata, closely resembles ordinary granulation tissue, consisting of numerous small, round and spindle-shaped cells. The tissue appears gradually to undergo partial development into an imperfectly fibrillated structure. In addition to this change in the intima, the outer coat is abnormally vascular and infiltrated with small cells, and this cellular infiltration usually invades the muscular layer. The result of these changes in the inner coat is to diminish very considerably the lumen of the vessel; and the consequent interference with the circulation frequently leads to coag-

ulation of the blood (thrombosis) and cerebral softening."

The treatment recommended by Aitken, such as administration of ergot, would only aggravate brain syphilis, as it would contract the blood vessels still more, causing what you most wish to avoid. Five years before the publication of Aitken's *Practice of Medicine*, and six years before Virchow cleared up syphiloma of the brain and its membranes, and eleven years before Heubner published his description of brain syphilis, Dr. Samuel Wilks of Guy's Hospital showed himself to be far in advance of all others in syphilology. He gained his knowledge in the dead-house, as well as by the bedside, and he had a happy faculty of imparting what he knew to others.

Dr. Wilks in 1863 said: "Modern research has been mainly in the direction of discovering a wider influence for the venereal virus, and tends to show that the internal organs may be affected equally with the external. Syphilis, in its ultimate form, is capable of affecting every organ of the body; the internal may become equally as obnoxious to the effects of the virus as the external. Many obscure and intractable organic disorders are cases of visceral syphilis, and it cannot be too forcibly impressed upon the young practitioner that syphilis may affect not only the cranium, but the brain within it, or the nerves; not only the muscles of the limbs and tongue, but the heart; not only the pharynx, but the esophagus; not only the larynx, but the trachea, bronchi and lungs; also the liver, spleen and other viscera." (*Guy's Hospital Report*, Volume IX, 1863.)

Associated with Dr. Samuel Wilks at Guy's Hospital was the late most accomplished pathologist, Dr. Walter Moxon. Together they wrote their great work on pathology, which is in daily use by every anatomist. For several months, I had the honor of being an assistant to Dr. Moxon in the post-mortem room of Guy's Hospital. The changes which occur in the brain in this dread disease were thus described by him:

"Syphilis attacks the surface of the brain and the membranes; it attacks them in limited spots, and spreads slowly. The morbid changes are, on the one hand, adhesion of the membranes to each other and to the surface of the brain by means of an adventitious material of firm consistence and yellow color, which may be called lymph, but is harder, tougher and more opaque. This exudation may be found at any part of the surface; it invades and destroys the gray matter, interferes with the supply of blood, and when it occupies the membranes at the base of the brain surrounds and involves the nerves in the inter-cranial part of their course. In the examination of the brain after death (over 1000), I have been surprised to find in how small a number this disease appeared to originate in the under layer of the periosteum of the endocranium. I think this, perhaps, may be accounted for by the fact that when a gumma of the inner table of the skull does arise, the chemical features evidenced by pain, etc., are so marked (for these manifestations usually occur with the existence of external gummata) that remedial measures are adopted early, and thus promote absorption before the membranes of the brain become involved."

Professor Claude Bernard, the noted physiologist, many years ago proved by experiments on the lower animals the very interesting fact that an injury in the median line of the floor of the left ventricle would be followed both by albuminuria and the presence of sugar in the urine. We know that gummata not infrequently attack the brain and by pressure it is not unreasonable to think that it may give rise to many of the so-called cases of Bright's disease and diabetes. I can not find any authority in my own library to sustain me in this supposition.

In looking over my scrap books I found the following, which seems to corroborate the views I have expressed. Dr. Sidney Phillips, at a recent meeting of the Harveian Society of London, read the notes of a case of diabetes insipidus, due to syphilis. The patient, a man

aged thirty-three, had ten years previously been treated for a chancre, followed by secondary symptoms; and had since, at various times, suffered from the effects of syphilis. When first seen by Dr. Phillips, he stated that he was passing very large quantities of urine, as much as ten quarts in a night; he complained also of severe pain, increased at night, in the the right fronto-parietal region, with localized tenderness; the right pupil was irregular from old iritic adhesions and he had a gumma of the size of a marble in the substance of the tongue.

He was treated by iodide of potassium in large and increasing doses and in three weeks he made rapid progress toward recovery. The headache had ceased; he was passing a little over three pints of urine in the twenty-four hours, and the gumma of the tongue had much diminished in size. Dr. Phillips remarked that, in this case, the increased flow of urine was due to syphilis, but whether it was due to the lesion on the cortex of the brain was not so clear. In all the recorded cases where a growth had been found as the cause of the polyuria it had been situated at the base of the brain. Trousseau, however, recorded a case of polyuria, following an attack of ordinary hemiplegia, where the lesion was presumably elsewhere than at the base; and possibly, in the present case, it was due to the node on the surface of the brain, which softened and diminished in size under the influence of iodide, as the gumma of the tongue was simultaneously observed to do.

I have in my mind a very dear friend who is not under my professional care, who has aphasia, and whose urine is loaded with sugar. I do not mean to imply that the trouble is of specific origin. I know that it is not, but there is a plugging up of a cerebral vessel (thrombosis) and there may be some pressure on the median line of the fourth ventricle. Whatever the cause may be, the proper remedy to give is the iodide of potassium. You remember what Dr. Dowse said about "its removing a tumor as readily as the knife of a surgeon, etc."

The following case is one that occurred in my private practice; I reported it in my article on "cerebral syphilis" already referred to: "On the 11th of December, 1894, I was consulted by Mr. —, aged forty-two years, who stated that for many months he had had persistent headaches, occurring at night. He had consulted many physicians, who had treated him for neuralgia of malarial origin. The treatment, he said, making his condition worse. I obtained the following history: Eight years ago he had had a suspicious sore on the prepuce. At first his physicians were in doubt whether the sore was the initial of syphilis or not. Subsequent syphiloderms, however, put at rest the question of diagnosis. He was placed under mercurials, and in a few months he was pronounced cured.

For eight years he had taken no treatment, and, as a rule, enjoyed good health. I gave a prescription containing bichloride of mercury and iodide of potassium, which, he stated, relieved the headache. On the evening of the 22d, he appeared bright and cheerful. On the next evening he called and said that he had not taken the medicine and that he was not feeling well. While he was standing up about to leave, he said he felt exactly as if some one had struck him a violent blow on the back of the head. He sank to the floor and it was with considerable difficulty that I lifted him to my sofa. In half an hour he was able to get up, and he passed some urine. I examined it and found no albumen or sugar; specific gravity normal. I took him home in a carriage and placed him in bed, and applied oleate of mercury (10 per cent.) over his bald head and the nape of his neck. There was no elevation of temperature, pulse 72, full and regular.

I commenced giving him fifteen grains (saturated solution) of iodide of potassium every three hours. The next day he complained of thickness of speech, and a sense of numbness on the right side. I gradually increased the iodide until he was taking 35 grains every three hours. There was no gastric disturbance. After a time there was slight

coryza and I commenced decreasing the dose until he was taking 2^d grains every three hours. He daily improved in strength; headache disappeared. On January 26, I prescribed the following:

R.—Hydg. biniodidi . . . grs. ij
 Ammonii iodidi . . . ʒii
 Potass. iodidi . . . ʒiv
 Tinct. Gentian. comp. . . f ʒiv

M. Sig. Teaspoonful in water three times a day, after meals.

Patient would go out walking or driving every day. On January 28, he went to New York City and I gave him a letter to Dr. R. W. Taylor, who stands, as you all know, so pre-eminent in our profession. I gave a favorable prognosis in this case.

On the first of February, I received a letter from Dr. Taylor, which contains the following sentence, which gave me supreme satisfaction: "Your diagnosis, prognosis and treatment are all correct. I think, with you, that the patient can be cured, provided he follows treatment repeatedly. He undoubtedly has had endarteritis of syphilitic origin."

It is two years ago, and more, since I wrote that history. A year later the patient sent me a handsome fee. Last week he called on me, looking the picture of health. He had gained in weight and his mind was as brilliant as ever, and he is noted as being a man of wonderful attainments and splendid address. To have one such case is enough to make a physician feel that life is worth the living, and goes a long way in counteracting the lack of gratitude, which is generally his recompense.

It is not necessary for anything to be new to be valuable. So with the treatment of syphilis. I do not suppose that away back, centuries ago, before America was discovered, the effects of mercury were understood, nor did our immediate predecessors know why they gave calomel for everything. Professor Samuel Jackson of the University of Pennsylvania used to say "when in doubt give calomel" and when it has been properly given it has cured many a disease, without our having comprehended the reason.

Since the bacteriologist has appeared with his immersion lens and staining fluid and culture tubes, we begin to realize that almost every disease is of germ origin. Now we are taking our turn in hunting down and destroying them. This has made a Lord of Joseph Lister and we would like to add a wreath to his crown of glory. Robert Koch has stained and brought into view the bacilli of tuberculosis. Sternberg, the Surgeon-General of our army, has acquired more fame in capturing the micro-organism of croupous pneumonia with his microscope than many a general has done with his sword. Laveran has lassoed the plasmodium of malaria. Eberth aimed at the typhoid germ with his lens and it surrendered at discretion. Neisser discovered the gonococcus of gonorrhoea and with it the fact that its disastrous effects are equal, if not greater, than syphilis. Gynecologists affirm that it is the most frequent cause of their ovarian and tube cases. At present, Klebs-Löffler diphtheria bacilli are household words, making everyone afraid of Washington, as if the germ of diphtheria existed nowhere except in this maligned city. The germ of syphilis has not yet been captured, but we hope soon to hear that it is imprisoned under a microscopic slide.

Excuse this digression. I began on the treatment of syphilis by mercurial inunctions. Our forefathers gave mercury empirically. Now we know that it is the most deadly foe to germs of every variety. I consider this method of giving mercury is the best of all, perhaps so, because it is the favorite of my old teachers, Neumann and Kaposi. It is the oldest of all. In a surgical work compiled by Theodoric, a Dominican monk, in 1250, a chapter is devoted to the *malum mortuum* and a treatment by means of mercurial inunctions is recommended. This, from the description, was undoubtedly syphilis, and if the ancients knew how to use mercury by inunction, we cannot boast of much progress. They did not know what the disease really was. Up to a few years ago we were in worse than Egyptian darkness ourselves in everything relat-

ing to syphilis and it still seems to be the desire in certain quarters that it should remain so.

There are two periods of the disease when we rely on mercurial inunctions and that is in the early secondaries and when we suspect arterial changes, or we dread formation of gummata in the internal organs. We order the patient two ounces of mercurial ointment put up in sixteen parts in oiled paper packages, and we carry out as far as possible the directions of Dr. R. W. Taylor. "Taking the head and neck one day, and one or two arms the next, and the other portions of the body in anatomical succession, thus going on, day after day, if there are no other contrary indications, until the whole rash is brought under a local mercurial treatment, and, at the same time, the general system is affected by absorption of the drug into the circulation."

Before rubbing in the mercury we direct the patient to apply to the part for a few minutes a small quantity of carbolated vaseline. Then rub in the mercurial ointment for twenty minutes. The best time to apply this method is just before retiring for the night and it is well for the patient to have underclothing to wear especially during the treatment. Once a week we stop treatment and let the patient take a hot bath and begin again the next day. I pursue this treatment until there is scarcely any eruption on the patient's skin. I continue this method for twenty days and stop ten. I then return to the mercurial pill, or the mixed treatment. Should there be symptoms of internal syphilis, or tertiary manifestations, we give at the same time as many drops, saturated solution, of iodide of potassium every three or four hours, as the patient can stand. Beginning with ten drops in water or milk, increased five or ten drops every day, until symptoms of iodism commands a halt. Give only the amount of mercury and iodide of potassium that can be given without producing the toxic effects of the drugs.

Six weeks ago, a man about forty years of age, who had a history of syphilis dating back many years, called at my office. He was in a wretched condition. He was afraid to go out alone on account of frequent attacks of vertigo. He suffered from night headaches and he complained of numbness of his right leg. He was of stout build. He had just come out of a hospital and was worse than when he entered it. I put him on drachm inunctions of mercurial ointment and commenced with ten drops of the saturated solution of potassium iodide three times a day. In a few days he returned, presenting a perfect picture of despair. He was salivated and covered with an iodide eruption. I stopped treatment, gave chlorate of potash internally, as well as mouth washes, etc., and gave directions that after the ptyalism had disappeared, to begin treatment with one-half a drachm of mercurial ointment as inunction and directed him to begin with five drops, gradually increased, of the saturated solution of the iodide of soda until the physiological effects were produced.

I did not expect to see the man again and assigned the patient to the third classification of skin diseases of John Hunter. His division of dermatological diseases was very simple, consisting of three classes: "Those which are cured by sulphur, those which are cured by mercury, and those which the devil himself could not cure."

Last week, however, the patient turned up again, and said that he had been out of town for a month. The headaches had disappeared, and he was not troubled with vertigo and he felt himself on the highway to recovery. He had taken just the right amount of mercury, and he was taking twenty-five drops of the iodide of soda solution three times a day. He had found the exact amount of the drugs that he could tolerate. I had done better than his Satanic Majesty. We will take up at an early day the treatment of syphilis by hypodermic injection,

