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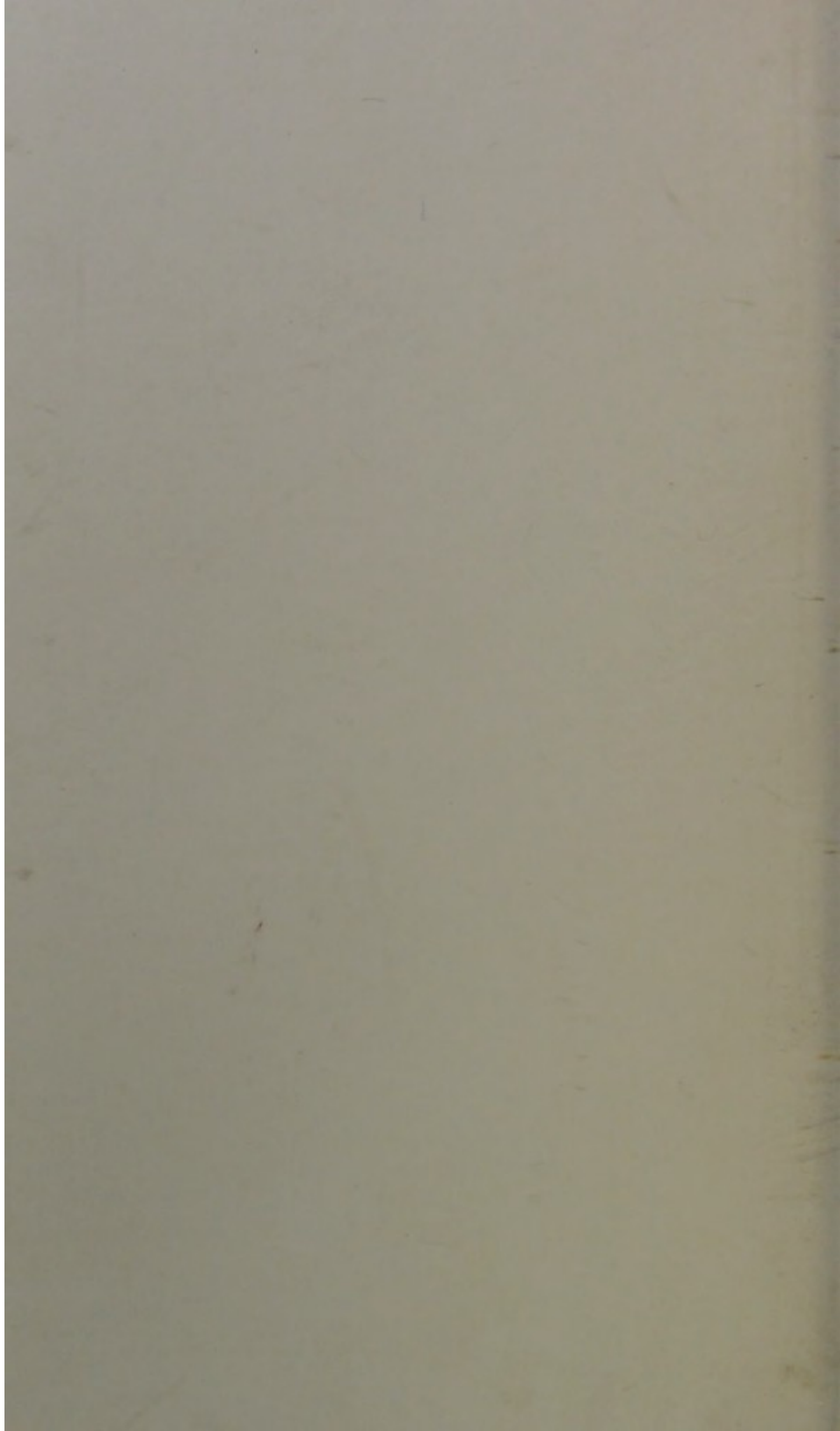
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REMARKS  
ON THE  
DIAGNOSIS AND TREATMENT  
OF  
SYPHILITIC WAXY  
DEGENERATION OF THE LIVER.

BY  
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AIX-LA-CHAPELLE.

GLASGOW: DUNN & WRIGHT, PRINTERS.

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DIAGNOSIS AND TREATMENT

SYMPHITIC WALKY

PREVENTION OF THE DISEASE

FROM THE "GLASGOW MEDICAL JOURNAL," MAY, 1869.

J. WESTON, M.D.

GLASGOW: PRINTED BY W. & A. G. B. 1869.

## REMARKS ON THE DIAGNOSIS AND TREATMENT

OF

# Syphilitic Waxy Degeneration of the Liver.

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IF we discover an enlargement of the liver in patients with syphilitic affections on the skin or mucous membranes or on the bones, we do not hesitate, generally speaking, to declare the liver disease to be also of syphilitic origin. But when there is an enlargement of the liver without any symptoms of syphilis externally visible, it is not at all impossible that we may not even think of syphilis as the cause of the swelling. Nevertheless, though syphilitic swellings of the liver, especially that which is called the *waxy degeneration*, are far from being of daily occurrence, I have myself observed more cases of this affection which were unaccompanied by external symptoms of syphilitic disease, than of those in which the external characteristic symptoms of syphilis presented themselves to the eye. Diagnosis not being so very easy in cases of the first class, unless the physician has met with such patients before, and, consequently, has acquired some special experience, I do not consider it superfluous to call the attention of the profession to this subject by discussing here the diagnosis of the syphilitic waxy degeneration of the liver. I shall give a short review (1) of the cases which I have observed, and their complications; (2) of the various symptoms present in my patients suffering from syphilitic waxy degeneration. Between January, 1857, and December, 1868, I attended 18 patients affected with this disease—17 were male, and one female. The youngest patient was 23, the oldest 54 years of age. The primary infection had in many cases taken place years before, and several patients had been perfectly well for a long time (one 25, one 19, one 10, one 8 years) after the infection. How long the degeneration of the liver had lasted, when the

patients sought my advice, could not be ascertained in any case. In the greater number, the disease had not been discovered before the patients came to Aix-la-Chapelle, and also where, as in two cases out of my practice already described,\* the disease had been previously diagnosed, nothing was known about the time of its first beginning.

Of the 18 patients, 17 were in affluent circumstances, one in great poverty. Only in 7 out of the 18 were there characteristic symptoms of syphilis externally visible. Of these 7 suffering from waxy degeneration, one had rupia, and suffered from flying pains; one had a syphilitic sore on the tongue, and was afflicted with syphilitic paraplegia and paralysis of the bladder and rectum; two had rupia, and were subject to epilepsy subsequent to their becoming syphilitic; two had syphilitic nodes; one had syphilitic nodes and syphilitic hemiplegia.

Out of the 11 patients who outwardly exhibited no symptoms of syphilis, two complained of flying pains in their limbs; one complained of a heaviness in his legs, and a depression of spirits; one had white swelling of one knee, the syphilitic origin of which was betrayed by the discovery that the liver was in the state of waxy degeneration, and cured by antisyphilitic treatment; two suffered from syphilitic epilepsy; one from syphilitic hemiplegia; one from syphilitic paraplegia. In three cases there were no complications besides the dyspepsia brought on by the liver affection, and the anæmia and muscular debility which most probably were the consequences of impaired digestion.

Of the *symptoms* of syphilitic waxy degeneration must be mentioned, first, that which is the only one present in every case, viz., the increase of volume of the organ. In *all* patients the liver was more or less increased. This could be ascertained by percussion in every case, and by palpation in most cases. Where the integuments were not so fat as to prevent the fingers from examining the liver, its surface could be felt to be perfectly

\* The first case of a patient, who was recommended to me by Professor Dietl of Krakow, in 1857, is recorded in "Practical Treatise of the Medical Properties of the Aix-la-Chapelle Hot Sulphureous Waters. By Wetzlar. 1862," p. 91. The second case of a patient, recommended to me by Professor Frerichs, of Berlin, in 1858, is related in "Frerichs's Diseases of the Liver"—English translation by Dr Murchison, 2nd vol., case 25; of which I have given a copy in the just quoted treatise, p. 92.

smooth. But it appeared a little firmer, and its edges in some degree rounder, than in the normal state. In most cases the enlargement was equally developed in all directions. Only in a few cases the enlargement was not perceptible all over the gland. Thus, in one patient the swelled liver had the form of a truncated cone whose apex was horizontally on a level with the navel, and corresponded in its longitudinal direction with the mammilla. In another case the lower edge of the liver stood in the sternal line, about one inch and a-half above the navel, and could be followed in a slanting direction up to the right; to the left of the linea alba the left edge of the liver came into close contact with the right edge of the spleen, which also was very much enlarged, and descended deeply into the epigastric region.

In 12 cases I found the *spleen* more or less enlarged, in 6 seemingly of normal size. *Icterus* was present in 4 cases, but not of great intensity, except in one case. 14 patients were perfectly free from jaundice.

More or less obstinate *constipation* was present in 10 cases. (In two of these cases the patients exhibited icterus.) It was most obstinate, where there existed simultaneously hemiplegia or paraplegia. *Intestinal catarrh* was present in 4 patients, one of these had a gastric catarrh at the same time. In 4 patients the bowels acted regularly. With the exception of the 4 patients suffering from jaundice, the *fæces* always were of a dark colour (in 14 cases.)

The *urine* was free from bile in all cases, except in those 4 where there was icterus; it generally was clear and only turbid as long as there existed a gastric or intestinal catarrh. Albumen was never found in it.

The *tongue* was temporarily furred in 5 cases.

The *appetite* was more or less impaired in 8 cases, but for a short time only.

*Vomiting* was observed in 2 patients, but it did not last for any length of time.

None of my patients complained of *pain* in the region of the liver. The organs appeared insensible to the touch.

16 patients were anæmic, 1 was plethoric. No symptoms of



affections of the organs of respiration and circulation, or of the kidneys were noted.

From what has just been said about the symptoms observed in syphilitic waxy degeneration of the liver, we may conclude that this disease can exist for a considerable time—a period not easy to define—without exhibiting striking signs. Unlike other affections of the liver, it seems not to bring on such disturbances of nutrition and of general health, as we might expect from an organic change marked by such an immense enlargement as syphilitic waxy degeneration generally shows. The increase of size recognisable by percussion and palpation, the general symptoms disproportionate to the extent of the swelling, and the simultaneous presence of a swelled spleen in most cases (in 12 out of 18) seem to be the surest foundations of the diagnosis. And for several years I have been satisfied that, wherever in a patient formerly affected with syphilis, there is observed an increase of size of the liver, without any irregularities of surface, especially without any pain, where the spleen is enlarged, and where the general symptoms are not proportionate to the increased volume of the liver, we may honestly give a verdict of syphilitic waxy degeneration of this organ.

The following observations will make this more evident:—

1. An English merchant, aet. 29, consulted me, June the 10th, 186—. The patient was 5 feet 2 inches high, fair, of a healthy complexion. Digestion good, fæces and urine of a normal colour, circulation, respiration, and sleep normal. For about six months the patient had complained of heaviness and lassitude in his legs. His spirits were frequently depressed, without his knowing any reason for it. The dull liver sound extended over 7 centimetres in the sternal line, nearly 11 centimetres in the mammillar line, 12 centimetres in the axillar line. On palpation the liver appeared perfectly even. The dull spleen sound was of a little more than two plessimetres width. The patient had been infected with syphilis ten years previously, in consequence of which a roseola had appeared, which yielded to small doses of mercury. He had been perfectly free from syphilis since, and had enjoyed excellent health till six months prior to his arrival at Aix-la-Chapelle. For the heaviness in his legs, which he then first felt,

he had consulted several physicians, but having derived no benefit from their advice, he was afraid his doctors had been misled by his healthy appearance, and had looked upon him as a hypochondriac.

Diagnosis.—Syphilitic waxy degeneration of the liver.

Treatment.—In the morning early, on an empty stomach, some tumblers of Aix-la-Chapelle sulphureous water; then a bath. Three times a-day, after each meal,  $\frac{1}{10}$  of a grain of bichloride of mercury.

June 14th.—Decrease of the swelling of the liver and spleen. The sensations of heaviness in the legs diminished. Spirits good.

18th.—The liver and spleen reduced to their normal size. The patient is perfectly well and cheerful, can walk for several miles without feeling tired. The treatment was continued up to June the 25th, the day he left Aix-la-Chapelle in perfect health. I advised him to take iodide of potassium for the next three weeks. October the 2nd, of the same year, I heard from a brother of his, whom he sent me as a patient, that his health had been perfect since he left Aix-la-Chapelle.

2. A German merchant, aet. 32, infected two years before, arrived here, June the 13th, had suffered from violent flying pains in both legs and arms. This pain had been considered by several physicians to be of rheumatic origin, as there were no symptoms of syphilis externally visible. The patient is of a dark complexion, but not icteric. He is anaemic. For some time he suffered from an intestinal catarrh. *Acne punctata*, bearing no character of syphilis, is visible on various parts of the skin. On the right side of the chest about three inches above the mammilla there is a flat spot of a slight coppery hue, scarcely as large as a lentil, and a similar one of the same size about two inches below the mammilla. The mucous membrane of the mouth and throat in good condition. There is diarrhœa. Tongue clean. Appetite tolerably good. No fever. Circulation normal. Liver-sound in the sternal line 8 centimetres, in the mammillar line 10 centimetres, in the axillar line 12 centimetres. The surface of the liver even. The spleen slightly swelled.

Diagnosis.—Syphilitic waxy degeneration of the liver.

Treatment.—Decoction of haematoxylon with gum acacia and

laudanum. Sulphureous baths. I advised also mercurial frictions, but the patient at first objected to them, as he attributed his pain to the mercury he had taken before. But, when six days later, his state, except the intestinal catarrh, had not been improved, he gave way. After the frictions (about half a drachm of blue ointment a day) had been made for eight days, the liver and spleen had returned to their normal size. The flying pain in the limbs was more obstinate, but it also gradually decreased, and very little of it remained when he left, which he did, much sooner than I wished, on July the 14th. By the advice of a renowned physician in Southern Germany, he repeated the frictions later, but not being entirely freed from pain, he wrote to me for my advice. I recommended iodide of potassium, but have not heard from him since.

In the two cases just recorded, the liver affection yielded to a specific antisyphilitic treatment with mercury. Dr Graves, Dr Budd, and others, attribute the waxy degenerations of the liver to a complication of syphilis with mercurialism, whereas Professor Frerichs declares it to be of a pure syphilitic nature. The good results I obtained in these two cases recorded, and in twelve other ones, by means of mercury, speak in favour of Frerichs's opinion, which is not contradicted by the good effects of iodide of potassium observed in other cases of waxy degeneration. In a great many other syphilitic affections, we observe that they offer a long resistance even to the best mercurial treatment, but quickly disappear when mercury is followed by iodide of potassium. It is just this rapid improvement consequent upon iodide of potassium in cases of syphilis, where mercury has been previously given, which has led many medical men to ascribe effects to iodide of potassium, which, in reality, it is not possessed of, leading them to give this medicine to patients who have taken no mercury before. I am the more entitled to look upon this opinion as an erroneous one, as I have not forgotten the time when I laboured myself under this mistake. For, when, now about thirty years ago, the method of Dr Wallace, of treating syphilis with iodide of potassium, instead of mercury, became known to me, the great success I obtained then, in some difficult cases, with iodide of potassium, made me renounce mercury altogether, and I ventured

to give iodide of potassium without previously prescribing mercury. But the failures I met with at that time were sufficient to point out the mistake of which I had been guilty.

By the recorded cases, it is equally proved that (1) a waxy degeneration of the liver can be present without manifesting itself by striking symptoms, and that only an accurate physical examination of the hepatic region affords us the means of discovering this affection. (2) The presence of the waxy degeneration may enlighten us on the existence of syphilis even where there are no other distinct symptoms of this disease.

Having had the opportunity of seeing several cases in which waxy degeneration of the liver was the only symptom of syphilis which could be relied upon, the diagnosis of waxy degeneration appears to me of the greatest importance. If a patient affected with syphilitic rupia, or periostosis (or gummatous swelling), labours under a spinal or cerebral paralysis, it will be difficult not to acknowledge the syphilitic origin of the affection of the nervous centres. But there are cases of paralysis observed, where the medical attendant, founding his opinion on the knowledge of the previous history, is prompted to action more by circumstantial evidence than by a certain diagnosis, and almost in despair is led to have recourse to an antisyphilitic treatment. But, if in cases of this sort he happens to discover a waxy degeneration of the liver, his diagnosis of a syphilitic affection of the brain or spinal cord gains a safe foundation.

3. A planter of the U.S. of North America, aet. 54, arrived at Aix-la-Chapelle, 1st Sept., 186—. For several years he had suffered from an affection of the spinal cord. Really, not one symptom which we generally observe in locomotor ataxy (*tabes dorsalis*) was wanting. The co-ordination of movement in the lower extremities was greatly disturbed. When trying to walk with his eyes shut, he was in danger of falling. Bladder and rectum were in a paretic state. There was the tightness round the waist usual in those cases. Even amblyopia began to show itself. The dull liver sound was 8 centimetres in the sternal line, 15 centimetres in the mammillar, and nearly 11 centimetres in the axillar line. Wherever the liver was accessible to the touch, it was felt quite even. But all parts of it did not partake equally

of the enlargement. It was largest in the mammillar line, and here it had the shape of a truncated cone, with the basis lying under the ribs and the apex on a level with the navel. The spleen was swelled also. Inquiring now about a syphilitic infection, I was apprized that the patient had suffered from syphilis twenty-five years ago. The local affection which he had at that time had not lasted very long, and the roseola by which it had been soon afterwards followed, had quickly yielded to small doses of mercury. No symptoms of syphilis had shown themselves since. The patient had been married for many years, and his wife and children enjoyed perfect health.

Under the use of bichloride of mercury in small doses, the liver and spleen became normal in about a fortnight; but it required a longer time for the antisiphilitic treatment to show its influence on the spinal cord; and when the patient was obliged to leave in the beginning of November, the cure was not complete. Certainly, he had lost the characteristic walk of those who are labouring under locomotor ataxy, he was not so quickly tired when walking, he could stand with his eyes shut without falling down; but the alvine evacuation was still difficult, the urine was not passed without difficulty, and the amblyopia, though diminished, was not entirely gone.

That the cure of the liver and spleen affections was rapidly effected by mercury, while the spinal affection was more slowly improved, is not unusual, and does not permit a doubt of the accuracy of the diagnosis in this case. For, whenever called upon to attend a complication of waxy degeneration of the liver with an affection of the nervous centres, I always observed the swellings of the liver and spleen to yield to mercury with surprising rapidity, whereas the cerebral or spinal affections offered a greater resistance to the treatment. The following cases may give instances of this:—

4. A——, a prince, aet. 38, arrived here May 31st, 186—. The doctor who had directed him to me reported that, eighteen years before, the patient had primary symptoms from which he had been freed by six weeks' treatment. During sixteen years he had been perfectly well. But then his mental powers began to decrease, and he felt a pressing pain in his head. Local

bleedings in the lumbar region improved his condition. Three months before he came to Aix-la-Chapelle his state suddenly became worse, and complete paralysis of the left side ensued. Iodide of potassium seemed to produce a little improvement. The patient's medical attendants being satisfied that the illness was of syphilitic origin, recommended the Aix-la-Chapelle springs in combination with mercury and iodide of potassium.

I found the patient very weak, emaciated, anæmic, with complete paralysis of the left extremities. Great apathy. Besides the cerebral affection there was a waxy degeneration of the liver, and a swelled spleen. The dull liver sound extended over 13, 15 and 17 centimetres in the sternal, mammillar, and axillar lines. Tongue clean. Appetite tolerably good. Bowels constive. No jaundice.

The patient was ordered to drink several tumblers of sulphureous water in the morning, while in bed; to bathe afterwards, to take iodide of potassium, and to have an inunction, made of two grammes (32 grains) of blue ointment, in the evening. The alvine evacuation was assisted by plain water injections. Nourishing food; wine. Every day a two hours' drive. After two days a decrease of the liver swelling was ascertained. This decrease went on rapidly, so that on the 8th of June the hepatic dulness extended only over 6, 8 and 9 centimetres in the sternal, mammillar, and axillar lines. The swelling of the spleen had disappeared. From this time no further decrease of the size of the liver could be discovered, but as the patient was very tall (he was more than six feet high), the liver may be supposed to have returned to its normal dimensions. Not until 20 days later, June the 28th, could the impression made on the brain by the anti-syphilitic treatment be perceived. From this day improvement went on constantly, though slowly. When the patient left, October the 17th, he could walk with a stick small distances, and even mount and descend a stair-case, though with some difficulty. He had gained in strength. His general health was excellent.

5. An English officer, aet. 31, who arrived here 25th June, 186—, suffered from paraplegia for about eight months. He had the walk peculiar to those afflicted with locomotor ataxy.

Excretion of urine was incomplete, and required great effort. Alvine evacuations never took place without strong aperient medicines. Of all the symptoms of *tabes dorsalis* but one was wanting, viz., the patient did not fall when attempting to walk with his eyes shut. A small sore of a decidedly syphilitic appearance had formed, eight days before, on the point of the tongue. The liver sound was perceptible  $7\frac{1}{2}$  centimetres in the sternal line, nearly 11 in the mammillar, and almost 12 in the axillar line. The spleen was increased. No jaundice. The patient admitted having had a syphilitic affection twelve years ago, but said he had been freed from it in a very short time. He had been married eight years. His wife and children were well.

I prescribed the internal and external use of the Aix-la-Chapelle springs, and  $\frac{1}{10}$  grain of bichloride of mercury, to be taken after meals. After four or five days the swellings of the liver and spleen had completely disappeared. The paraplegia gradually improved, as well as the paralysis of the rectum and bladder, but the cure of the spinal affection required much longer time than had been needed for the liver and spleen to get well. So the antisiphilitic treatment was continued up to August the 18th, when the patient left; his state was so much improved that complete recovery could be soon expected. He was advised to take iodide of potassium at home.

From these and other cases of syphilitic waxy liver degeneration which I have observed, we may come to the conclusion, that this disease offers no great resistance to a specific antisiphilitic treatment, and yields rapidly to the proper medicine.

The result of the treatment in my patients was the following:—14 were submitted to mercurial treatment, and freed from their liver affection. Of 2 patients who had taken mercury before, and took iodide of potassium in Aix-la-Chapelle mineral water, one was cured, the other greatly improved. In 2 patients who had taken no mercury before and declined to take this medicine, iodide of potassium was tried, but without benefit.

Though I have every reason to be contented with the results of the treatment in my patients, I am not so sanguine as to think that it would have the same result in every case. All my

patients, but one, were in good or even brilliant pecuniary circumstances. This may have had some influence on the cure, and I am the more inclined to think so, as the only patient in whom no complete cure of the liver affection was obtained, was a man who had lived in great distress for a long time.

If in any case of this kind, under an antisyphilitic treatment, the liver has returned to its normal state, I must warn my readers against considering the general disease as cured also. Just as after the disappearance of a syphilitic roseola an ulceration in the throat or rupia may appear, so another syphilitic affection may show itself after the liver swelling is gone, if the syphilis is not extinct. I attended a few years ago a lady, 38 years old, in whom, besides the waxy degeneration of the liver, there were no other symptoms of syphilis present. The liver affection yielded to small doses of bichloride of mercury, combined with the use of the Aix-la-Chapelle waters, in a few days, and the patient, feeling quite well, left too soon. But a few months afterwards, when at home, syphilitic sores broke out, which her family attendant cured by a second mercurial treatment. I saw her again the following year at Aix-la-Chapelle, and the scars of the healed ulcers excepted, no trace of syphilis could be found. The liver had remained quite well.

The waxy degeneration of the liver being a true syphilitic disease, it is easily understood to be only curable by a specific antisyphilitic treatment. Mercury, provided the patients have taken but little of it or none at all, may be considered the chief remedy. Of the mercurial preparations, the bichloride has proved itself to me as the most efficacious. But wherever we have reason to apprehend that the bichloride would not be tolerated, mercurial frictions are to be preferred. I, therefore, always have recourse to the latter when there is a tendency to intestinal catarrh, and generally at those times when diarrhoeas are prevailing. Frictions are also preferable in patients with great anæmia. When the patients have taken much mercury before, iodide of potassium is to be tried first. But I have not obtained any good result from this medicine in waxy degeneration during the last ten years. The success by which I saw it followed in the two cases observed in 1857 and 1858, was probably owing



to the circumstance that both patients had previously taken large doses of mercury; whereas in the cases I have since seen, little or no mercury had been given. On the simultaneous employment of the Aix-la-Chapelle hot sulphureous springs with mercury or iodide of potassium, I need not dwell here, as I have already given a full account of this combination in my various publications on the Aix-la-Chapelle waters. There is no doubt that, when these waters are taken at the same time while a patient is taking mercury or iodide of potassium, the latter medicines are more efficacious and more free from drawbacks than when they are employed alone.

With regard to the diet, I prescribed nourishing, easily digestible food to all my patients. Those of them who were accustomed to wine were permitted or ordered to take it moderately. Exercise, according to circumstances, either active or passive, in the open air, was recommended to nearly all my patients. I have ascertained, by long experience, that a mercurial treatment is much better borne if the patient is not shut up. The only patient suffering from waxy degeneration who was salivated, was a gentleman afflicted at the same time with hemiplegia and periorchitis, whom I was obliged to confine to his room, this being the only means of keeping him from some acquaintances who led him into immoderate drinking. But this severity proved highly beneficial, for I doubt whether he would otherwise have been freed of his sufferings.

I do not consider myself entitled to dwell here on the pathological anatomy of this disease, as I, fortunately, never had an opportunity of making a *post-mortem* examination. If, which I do not think will be the case, from this want of opportunity of studying the disease in the dead-house, any of my readers should be inclined to doubt my ability of recognising and attending it in the living, or to question my right of writing the views I have gained by experience in diagnosis and treatment, they may be reminded that in the first two cases which I saw the diagnosis was already made by two eminent men whose knowledge of pathological anatomy, as well as of general medicine, are equally appreciated by the profession, and that, consequently, it was not so difficult for me to pay further attention to a subject on

which I had been first enlightened by such distinguished pathologists.

Some readers may also object to the name which has been given here to a swelling of the liver, which yielded to a short antisyphilitic treatment. But, as such an authority as Professor Frerichs has put one of my cases under the head of syphilitic waxy degeneration, I do not think anybody else entitled to question the accuracy of this appellation, unless he had an equally good opportunity of seeing those cases in the living, and in the dead body, as that learned author of the classical book on the diseases of the liver.

Though the present paper has but one object, the diagnosis and treatment of the syphilitic waxy degeneration of the liver, I fear that some of my readers might find something wanting, were I to conclude without mentioning the effects of the anti-syphilitic treatment on the diseases complicating the liver affection in the cases which I observed. Having already spoken of the result in the co-existing hemiplegias, paraplegias, and the white swelling, it is only left for me to speak of the four cases of epilepsy. With regard to these I am only permitted to say that the treatment *seemed* to act beneficially on the epilepsy also. For, as we can only declare a patient cured from epilepsy, when years have passed after the last attack, and as I have not been so fortunate as to receive sufficient information from my patients after their departure from Aix-la-Chapelle, I am not enabled to speak positively of the final result.

One patient lost his liver affection very soon under mercurial treatment, and his epileptic fits, which had come on, at first, every week or fortnight, became more and more rare, first under mercury, and afterwards under iodide of potassium. When he left Aix-la-Chapelle, after a six months' stay, he had had no fit for five weeks. But he had a fit at home, a week after his return, for which the iodide of potassium with cod liver oil proved beneficial. For, as the patient informed me some months later, at the date of his letter, no new attack had appeared for ten weeks. But I had no further communication from him.

In a second patient, suffering, besides his liver affection, from rupia and epilepsy, whom I attended for five months, the liver

disease yielded first; the rupia was cured somewhat later, and the epilepsy, which at first had appeared every three weeks, had not, when he left, shown itself for six weeks. But I have not received any communication from him since.

In a third case of epilepsy, with waxy degeneration and an extensive rupia spread over a great part of the chest, arms, and legs, the liver became normal in about a fortnight, while the rupia was very obstinate, and when healed on one place, became worse on another. But finally, it was completely cured. The epileptic fits, which at first had occurred every four weeks, had become more rare, and, when the patient left, no fit had come on for more than four months. The treatment had been variously modified during the fifteen months which the patient had stayed. Mercury, iodide of potassium, tonics, had been employed according to circumstances. For a time no medicines had been given. He left, seemingly in perfect health, to pass the winter in the south. As I was told by acquaintances who met him there, he had been well for some months, but died about two years afterwards. What ailments preceded his death, whether the old disease had returned, or whether his demise had been brought on by a casual illness, I am wholly ignorant.

In a fourth case of epilepsy combined with the liver affection, the latter yielded in a week's time after small doses of mercury. But as the patient made but a four weeks' stay, and I had no news from him afterwards, I know nothing about his further state of health.

