Traces of albumen in the urine are, of course, common after epileptic seizures; but I have met with two instances where epileptic seizures occurring at an interval of many years have been of great severity, and where the state of the urine for many days after the fit was such as to lead to the suspicion that serious renal disease was present, but the albuminuria subsequently cleared, and the patients regained their usual health. In one of these cases there could be no doubt as to the disease being primarily epilepsy, inasmuch as the fits had followed an injury of the head received in childhood.

The confusion with asthma is very liable to be made, owing to the fact that in most forms of uraemia, and especially in acute uraemia, dyspnoea is a leading feature. As already mentioned, the error of diagnosis can generally be avoided by careful examination of the urine and of the fundus oculi.

The true granular kidney is also a lesion of great importance to the practitioner, as here, also, we have to deal with the insidious disease. The usual type of case with marked cardio-vascular changes, high tension and abundant urine with a trace of albumen, is easily recognized, and the main point of clinical interest with reference to these cases lies in the recognition of the fact that this malady may exist in a very advanced form and yet the patient present a spurious appearance of health, being apparently vigorous, rosy in colour, and with nutrition apparently well maintained. This type of case is often difficult to treat, inasmuch as the patient refuses to recognize the real gravity of the underlying condition. There are several other types of granular kidney which are of clinical interest. Thus, it is important to recognize that albumen is not constantly present in the urine in all cases. Further, that the albuminuria, when present, may sometimes be of the postural type, and therefore absent in the morning specimen of urine. Granular kidney should never be excluded on the strength of a single examination of the urine. It is more important to pay attention to the quantity of the urine, the specific gravity, and the state of the retinal arteries as revealed by the ophthalmoscope. The ophthalmoscope should be used in these cases not so much from the point of view of detecting albuminuric retinitis as for the purpose of detecting the earlier changes in the retinal vessels.

Again, in some instances of granular kidney the patient presents marked neurasthenic symptoms, and the very serious error may be made of looking upon all the symptoms as entirely due to such a functional cause when arterial sclerosis and granular kidney are really present.

There are two other types of granular kidney which are of interest clinically, although they are both of them rare. There is one where an extreme form of atrophic granular kidney may be present and where the patient presents no cardio-vascular changes, or at any rate no changes which can be recognized with certainty clinically. It is obvious that grave errors are liable to be made in the diagnosis of these cases, inasmuch as the leading symptoms of high tension, arterial thickening, and cardiac hypertrophy are absent. Such patients present vague symptoms of ill health generally for a prolonged period, accompanied with much wasting, and finally die, probably of uraemia or of some secondary inflammation such as pericarditis or pneumonia, and in many of these cases the nature of the disease is only recognized in the *post-mortem* room.

Lastly, cases are sometimes seen of granular kidney where there is the most intense anaemia, rivalling that of pernicious anaemia, and where the symptoms are entirely referred to this anaemia and disorder of nutrition, the obviously renal symptoms, such as headache and vomiting not being well marked. These cases are also difficult to diagnose, owing to the prominence of the anaemia and the slight changes in the urine.

THE late Mrs. Jane Harriet Oakley, of Hove, whose will has now been proved, made the Sussex County Hospital her residuary legatee. The amount to which the institution will benefit is believed to be some £15,000.

UNDER the will of the late Mr. Charles Henry Bailey, of Newport, Monmouthshire, the Newport and Monmouthshire Hospital receives a sum of £700 for a child's cot, and an endowment of £52 10s. a year for the maintenance of a bed in the men's ward.

A Clinical Lecture ON ALBUMINURIC RETINITIS.

DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL.

By WALTER H. JESSOP, M.B., F.R.C.S.,

SENIOR OPHTHALMIC SURGEON AND LECTURER ON OPHTHALMIC MEDICINE AND SURGERY AT ST. BARTHOLOMEW'S HOSPITAL.

GENTLEMEN,—We have had lately in the wards three cases exhibiting the classical signs of the retinitis associated with Bright's disease. I cannot do better than to refer first to the short notes taken of these cases, as they serve to summarize the clinical conditions of the disease. Before doing so let me remind you that the existence of eye symptoms was noted in the first observations of Dr. Bright, who described loss of vision, partial and complete, in some cases. Heymann gave the earliest description of the retinal changes which he and Coccia observed by the ophthalmoscope; whilst Liebreich in 1859 first illustrated the ophthalmoscopic appearances in his admirable drawings.

The first case described is typical of albuminuric retinitis as found in parenchymatous nephritis. The second case exemplifies the affection in chronic interstitial nephritis, and the third case illustrates the albuminuric retinitis of acute nephritis.

Parenchymatous Nephritis.

A horse-collar maker, aged 26, was admitted under Dr. Tooth. The past history of the case was that in October, 1905, he had severe frontal headache for twenty-four hours, since when he has had polyuria; four days after this attack he had headache and vomiting for twelve hours and had six fits the night after. He returned to work in a week and remained apparently well till November, when he had another attack of vomiting, lasting twelve hours, and since then has had continual headache with vomiting two or three times a day independent of food. He has lost 10 lb. in weight, and has had muscular twitchings for one month.

On admission the patient's face was pale and puffy; he looked anaemic, and his tongue was furred; temperature normal; pulse 76, with moderate tension. His eyes were slightly unsteady in conjugate deviation. The eyelids were rather puffy, the pupils were equal, and reacted normally. Ophthalmoscopic examination showed oedema of retina in the right eye; the optic disc edges were fairly clear, of muddy aspect, but with no swelling; the yellow spot at nasal side showed half a star of bright white small radiating patchy spots. The retinal arteries were convoluted and rather small. The retinal veins were dilated. Scattered about the retina, chiefly within the equator and near the vessels, were several flame-shaped superficial haemorrhages. Numerous white and yellowish-white patches and spots were near the optic disc and along the retinal vessels; no cholesterol spots present.

The left eye showed the same conditions except that there was no marked star at the yellow spot, but the Mullerian fibres were seen very distinctly as radiating lines; there was one large linear haemorrhage between the optic disc and the yellow spot. There was no detachment of the retina and there were no black retinal pigment spots.

The heart and lungs were normal but the pulse tension was increased. The abdomen was rather pigmented, the reflexes were brisk, and the spleen not enlarged; the knee-jerks were exaggerated; urine 1016, pale in colour; there was about 1½ albumen; there was no sugar. The past history of the patient was that he had scarlet fever at 11 years of age and typhoid soon afterwards. He had drunk a great deal of beer up till some months before admission.

On the eighth day after admission to the hospital the patient vomited several times, and then continued vomiting at times with slight delirium till the sixteenth day when he showed signs of uraemia, and died from uraemic convulsions on the seventeenth day.

The *post-mortem* appearances showed the large white kidney of chronic parenchymatous nephritis.

Chronic Interstitial Nephritis.

A man, aged 48, who consulted me in 1898, complaining of dimness of vision in the right eye, aching of the eyes, and headache. His vision, right and left eye, was 8. Ophthalmoscopically both eyes showed retinal arteries that were rather tortuous and with marked "copper-wire" look; the retinal veins were dilated, and in places were distended where crossed by the arteries. The urine was examined three times, and was of low specific gravity but did not contain albumen. His radial arteries were rather thickened, and there was increased tension of the pulse.

I saw him again in 1900, and found he still complained of headache and aching of the eyes; the vision was dim at times, and he had lately passed more urine than usual, and had

nausea every morning. He was pale, anaemic, and sallow-looking; the tongue flabby, furred, and moist. The radial arteries were rather thickened and tortuous; pulse regular but of high tension. The heart dullness was enlarged, with the first sound prolonged and second sound accentuated at base.

Ophthalmoscopically the right eye showed the optic disc normal, with the retina near the disc oedematous; there were small flame-shaped retinal haemorrhages near the vessels; there were numerous white plaques and spots, most of them soft-looking, and a few were glistening white. Around the macula there was a concentric circle of white glistening spots. In the left eye the appearance was exactly the same, but there were no marked signs of degeneration; vision, right and left, $\frac{1}{2}$; urine 1012, acid, with a trace of albumen and a few hyaline and granular casts; the heart dullness was enlarged, with the first sound prolonged and booming and accentuated at the base. I gave a gloomy prognosis as to life, and heard that in fourteen months he died of uraemic convulsions, and that a post-mortem examination showed contracted kidneys.

Acute Nephritis in Pregnancy.

The patient, aged 23, complained at her first visit that her vision for the last few days had been deteriorating and that at times she had been quite blind in the right eye. She was six months pregnant. The urine showed a specific gravity of 1020 and was loaded with albumen. Her vision was—right eye, $\frac{1}{2}$; left eye, $\frac{1}{4}$. Ophthalmoscopic examination showed that in her right eye the retina was oedematous, the optic disc was congested, the edges were indistinct, but there was no swelling; there were numerous large soft-looking retinal plaques and spots, some confluent, mostly situated near the optic disc and well within the equator, there was no tendency to the "albumen star" at the macula; numerous retinal haemorrhages were observed, some flame-shaped.

DIAGNOSIS.

The points I want to consider to-day are the ophthalmoscopic signs in albuminuric retinitis and the prognosis in these cases considered as to life and vision. From the point of view of the ophthalmoscopic appearances the changes in all these cases may be considered first as they affect the retinal tissues as oedema, white or yellowish-white spots and patches, haemorrhages, pigment spots, and rarely as a late change detachment of the retina; secondly, as they affect the optic disc as congestion or swelling; and, thirdly, as they affect the arteries and veins.

I advise you in your notes of similar cases to take the ophthalmoscopic signs in some such order as I have indicated.

Considering first the retinal changes, it will be found that oedema of the retina is generally present, the retina especially near the optic disc being opaque-looking. The white plaques or spots vary in size, shape, and appearance. They may be mainly divided into two classes, the one characterized by soft edges, yellowish-white colour, and due to exudation, and the second much brighter white, with often metallic lustre due to cholesterolin and degenerative changes. These spots are as a rule situated within the equator, and mainly in the neighbourhood of the yellow spot and the optic disc. Around the macula lutea the white spots tend to arrange themselves as a star or ring enclosing an area of apparently normal retina. These spots and plaques, especially the soft-looking ones, tend to disappear, and alter sometimes from day to day; the degeneration ones also alter, but much less rapidly. The haemorrhages are, as a rule, superficial and flame-shaped, and situated near the blood vessels. They may, however, be horizontal, linear, sausage-shaped, or more or less rounded when they are in the deeper layers of the retina. At the periphery, in cases of granular kidney, small black pigment retinal spots may be found, but these occur late in the course of the disease, and result from inflammation of the retina. Detachment of the retina may be found occasionally, and is a very serious sign.

Considering next the optic disc, it will be found that the colour may be altered, being either too pale or too red; the edges are often not quite distinct owing to the oedema of the retina; and in some cases there may be distinct optic neuritis with swelling of the disc.

As to the arteries and veins, it will be seen that the arteries generally show signs of degeneration, and are tortuous and irregular in contour; the light streak is broadened and bright in colour, like copper or gold wire. In some cases the arteries have apparent kinks in them, and sometimes minute aneurysmal dilatations. The veins are tortuous and dilated, and when crossed by an artery are often flattened and distended peripherally.

Such, then, are the signs of retinitis in Bright's disease, and the combination of these signs make up the more or less characteristic picture of albuminuric retinitis. Retinitis exhibiting exactly the same signs is met with without any albumen being found in the urine, and sometimes without any apparent cause. The retinitis found in diabetes resembles very much the albuminuric form, and is often very difficult to diagnose. In most diabetic cases, however, there are many more haemorrhages, and the plaques have a more yellowish colour with a greater tendency to coalesce, presenting a soft cotton-wool look, the edges being crenate and frayed-out-looking. If I were asked to say which of the ophthalmoscopic signs was the most diagnostic of albuminuric retinitis, I should certainly say the ring or star of spots round the macula, though in some cases this may be absent.

Retinitis is more often observed in chronic interstitial nephritis than in parenchymatous nephritis, and much less frequently in acute nephritis.

The differentiation of granular kidney from the large white parenchymatous form is sometimes possible by the ophthalmoscope, but the signs vary very much in intensity and appearance. Dr. West has tried to draw a sharp distinction between these two forms as far as the retinitis is concerned, but I am bound to say that though the first case described in this lecture exhibits a more exudative than degenerative condition, the two forms easily pass into one another. The eye symptoms in the chronic contracted kidney occur late in the disease, and after increased arterial tension has existed for some time, and this in chronic interstitial nephritis may often be diagnosed before even albumen can be found. I have noticed the presence of "copper-wire" arteries years before the retinal changes could be seen, and those changes afterwards not characterized by haemorrhages but by small retinal plaques and spots, especially in the neighbourhood of the yellow spot. The retina may also show at the periphery small spots of black pigment. Now these appearances are quite distinct from those seen in parenchymatous nephritis, where the characteristic signs are the large patches of exudation, the presence of haemorrhages either superficial or in the substance of the retina, and the absence of definite arterial changes known as "copper wire."

PROGNOSIS.

The prognosis in albuminuric retinitis must be considered as to vision and as to life.

The disturbance of vision varies greatly and bears no marked relation to the intensity of the retinitis or to the kidney mischief. Patients very rarely become blind except suddenly from uraemic poisoning. The sight, if affected, is gradually impaired, and often to the end of life patients retain good acuity of vision. The reason for this is that though the retinal lesions may be very gross the actual yellow-spot area is little affected. In acute retinitis, especially that of pregnancy, the loss of vision, which is often very marked, may be completely recovered from. In the other forms any improvement of vision is, as a rule, only slight and temporary.

The prognosis as to duration of life is very serious, except in cases of acute nephritis in pregnancy. I have notes of patients with marked gravidic retinitis who are alive and well fifteen years or so after the attack.

In the other forms of Bright's disease the duration of life after the ocular signs are present is limited to months, very rarely years. Statistics have been compiled by numerous authors, but unfortunately no differentiation as a rule has been made between the varieties of nephritis. In 45 cases Miley found that all died within eighteen months, and no less than 45 within twelve months. Baroness Possauer found in 39 private cases that 23 died within two years, and in 33 hospital cases all the men and 68 per cent. of the women died within two years. Belt in 100 private cases found 73 per cent. died within one year and 94 per cent. within two years. He also collected 419 cases from different authors, including hospital and private patients, and found that 72 per cent. died within one year and 90 per cent. within two years.

There seems little doubt that private patients suffering from albuminuric retinitis live a longer time than hospital patients, and this might be expected, as they need not, as a rule, be so much exposed to climatic and hygienic changes. From my own experience I should

say most of these patients die within one year of the diagnosis of albuminuric retinitis, but as vision is often for some time so little affected, patients do not probably seek advice at first, and therefore this rule cannot be made hard and fast.

Remarks

ON

THE TREATMENT OF SYPHILIS,

WITH SPECIAL REFERENCE TO INTRAMUSCULAR INJECTIONS.

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THE subject of the treatment of syphilis, though an old one, is perennially youthful and full of life and vigour. The clashing of opinions, the struggles of partisans, the alarms and excursions which have circled round it as a storm centre have been fast and furious, and I may add, as some points of my present paper will show, discussions as to the proper mode of treatment are still going on with unabated energy.

If there is a disease about the treatment of which there is a fascinating divergence of opinion—it is syphilis. Ideas and methods regarding it vary not only from medical man to medical man, so much so that one might be tempted to exclaim: *Tot homines, tot sententiae*, but also from country to country. About one thing every one appears to be quite sure, however, namely, that he knows how to treat syphilis better than anybody else. As far as I am concerned, I consider it is very necessary to be eclectic in the choice of method and that the golden rule of treating every case on its merits should be our guiding principle. It will be my endeavour to show that there are a variety of methods of treating syphilis, or as I prefer to put it, of treating syphilitics—for there is really no such thing as syphilis in itself, convenient an abstraction though it be. What we, as professional men, have to deal with is a human organism suffering from the invasion of another organism, the *Spirochaeta pallida*, for there appears to be little doubt now as to specificity.

Having diagnosed the kind of infection, the next step before prescribing treatment is to consider the kind of patient infected—sex, age, nationality, occupation, history, habits, weight, general condition, giving special attention to the state of the mouth and teeth, the stomach and intestines. The urine should be tested, and an approximate idea at least of the amount passed in the twenty-four hours obtained, for the state of the eliminatory processes in each individual case, including the condition of the heart and circulation, is of primary importance, especially in the early days of the infection.

I would again strongly insist on examining the teeth and mouth carefully in a routine way. The success or otherwise of mercurial treatment may depend on the good or bad state of the buccal cavity. In many cases it will be of the first necessity to send the patient to a reliable dental surgeon, and thus avoid the vexation of having to interrupt the treatment on account of stomatitis, gingivitis, and so forth.

The mode of life is a factor not to be neglected, for it has been shown over and over again that syphilitics leading outdoor lives, with every comfort secure about them and without incentive to cerebral exertion, do better than individuals in the hurly-burly of competition or following unhealthy occupations.

I need hardly call attention at this time of day to the bad effects of alcohol on the syphilitic processes. Not only does alcohol interfere with the play of the phagocytes,¹ but it also impairs the nervous system generally.

Smoking, again, especially if excessive, is bad from the mouth point of view.

There are syphilitics, again, with what we call in our ignorance—idiosyncrasies. Mercury upsets them, but it should be borne in mind that mercury which may not suit them in one form may in another. Therefore attempts should be made to deal with the case by the trial of various preparations, preference being given in my opinion to a mixture of liq. hydrarg. perchlor. and pot.

iod., the mercury of which is much more rapidly eliminated than when mercury is given alone, as demonstrated by the experiments of Tschiriew.² Iodide of potassium appears to act as a diuretic. But it may happen that mercury cannot be tolerated at all. Then I would recommend a salicin mixture, commencing with gr. xv ad 3j; increasing rapidly to gr. xx and upwards, ter in die, p. c. I have little in the way of proof to support this view, but what little I have, and judging by analogy, I consider that salicin as an adjuvant or alternative in the treatment of syphilis may be of service. The knowledge that mercury is the treatment for syphilis renders it a difficult matter to withhold it for the purpose of experimenting with another drug. Such idiosyncrasies, again, make an overhauling of the patient imperative, more particularly as regards the renal, hepatic, and circulatory conditions, especially in elderly patients.

I will first deal with drugs and methods, and later with the syphilitic manifestations themselves and their treatment.

It is frequently stated that syphilis and its mercurial treatment were well known to the Chinese ages ago. This view rests mainly on the work of a French writer, Captain Dabry, who, by the way, was not a medical man. The hoary antiquity of the disease in China has, however, been rudely shaken by Okamura,³ a Japanese physician, who has recently searched the Chinese records, with the result that he found nothing relating to syphilis earlier than the sixteenth century.

In more recent times the employment of mercury met with much opposition, many maintaining that syphilis could be cured without mercury. A good English account of the battles of the mercurialists and non-mercurialists will be found in Cooper's *Dictionary of Surgery*.⁴ But it must not be forgotten that the proper analysis of the so-called venereal diseases has been accomplished, comparatively speaking, quite recently, although the earlier writers in the sixteenth century had apparently distinguished syphilitic manifestations as a separate thing. For many years gonorrhoea, soft sores, and syphilis proper were all jumbled up together. Owing to the influence of John Hunter, to whom every one bowed down, the clock was kept back, for his fallacious experiment on himself had satisfied him, and therefore the medical profession at that time, that gonorrhoea and syphilis were one and the same infection.

Later, when gonorrhoea had been separated out, Ricord, another great authority, remained a unicist as regards soft sores and syphilis. Bassereau, however, in the face of much opposition naturally, showed that the soft sore and syphilis were two different affections. This was followed by Rollet, who demonstrated the fact that both the infection of the soft sore and of the syphilitic chancre might occur at one and the same time; *chancre mixte*.

Ricord's influence also retarded the recognition of the infectious nature of the early secondary, so-called, manifestations of syphilis—authority gone wrong again leading to most unfortunate results as can well be imagined.⁵

It is not to be wondered at, therefore, that rational treatment made but slow advance in the circumstances.

At the present day the value of mercury in the treatment of syphilis is generally admitted. It is still contended, however, that mercury is not absolutely essential to the cure of the disease. G. H. Fox⁶ of New York, although he employs mercury, is of this latter opinion for instance, and he adds "that cases will get well by virtue of the *vis medicatrix*, even when no mercury is administered." I would here remark that, as far as the syphilitic infection is concerned, this beneficent *vis*, whatever is meant by that term, has done very little apparently to stay the evil effects of syphilis in Turkish Asia Minor, for instance, as investigated by von Düring.⁷

This leads me to point out that, however benign an attack of syphilis may appear to be, the treacherous nature of the infection and its protean effects must ever be present to the mind. Many a serious late manifestation has a past which was full of hopefulness, nay, in some cases, especially in women, the early morbid phenomena may have been so evanescent as to have escaped attention altogether. It is recognized generally that severe late syphilis occurs more frequently in those who have been insufficiently treated in the early stages. There are exceptions to this, as to all rules, and I have observed such myself.