The results of these special examinations may be summed up as follows: The diagnosis of nephritis was definitely confirmed. It was shown that nitrogen and salt and water could be eliminated in fairly good quantities, and the danger of retention of these substances with resulting oedema and uraemia seemed remote. In this case the vascular changes seemed to predominate and the danger would consequently lie in overtaxing the circulation. For this reason, since nitrogen and salt both stimulated the hypersensitive blood vessels, these articles should be given sparingly. The cause of the high blood-pressure was not demonstrated. The whole case seemed to be one in which vascular disease predominated over the renal condition, and was more or less independent of the nephritis.

As far as treatment of this case is concerned this investigation merely gave additional reasons for continuing the low protein and low salt diet which had already been inaugurated. As far as diagnosis is concerned, while it confirmed the diagnosis of cardio-renal disease, it reversed the diagnosis as to the predominance of the two elements, the renal and the vascular. I had assumed from the history and the evidence that the kidney functions were so seriously impaired as to constitute the real source of danger. It proved, however, that the renal functions are fairly satisfactory and that the danger will lie rather with the failure of the circulation. This investigation also offered a better prognosis than I should have dared to promise without it.

During the past summer this patient lived a moderately active out-door life on the coast of Maine. He continued his 52 grams of protein in a salt-poor diet. He called to see me at the end of November. He looked in perfect health, and said he felt better than for years. However, his pulse was 92, his systolic blood-pressure was over 300 and the diastolic pressure 190, and the left border of his heart was 1 cm. farther to the left. So far he has had no medication except occasionally a grain or two of phenolphthalein to keep his bowels open. The present indications are to continue the same dietetic regulations, to avoid anything beyond moderate exertion, and later, if necessary, use cardiae tonics when the heart begins to fail.

As we accumulate more data, we shall undoubtedly divide our cases of chronic interstitial nephritis into at least two or three clinical types. A better insight into these cases should lead to better treatment and more benefit. Even advanced cases of Bright’s Disease of the ordinary type, may be benefited. If we can regulate the diet so that the nitrogenous output is within the capacity of the kidneys and the patient still gets sufficient nutrition, many of these cases may live in comfort for years longer than we have been taught to expect.

In conclusion,—what practical deduction can we draw from the consideration of the problems presented by these cases.

Cases of nephritis do better on a low protein diet, which requires less functional activity on the part of the kidneys. The degree to which the protein should be cut down depends on the degree of impairment of the renal functions. A rough estimate can be made on the basis of allowing 90 grams of protein in the lightest cases and about 40 grams in the severe or advanced cases. Intermediate grades should have an amount of protein between these extremes, varying according to the severity of the disease. If the symptoms improve and the blood-pressure falls, the functional tests are not essential; otherwise valuable information may be obtained from them, even in the present stage of our knowledge. With the accumulation of more data, the inferences that may be drawn from these functional tests will be more and more valuable.

In cases with oedema, and also in the cases in which the blood-pressure remains high although the protein in the food is reduced, the amount of salt should be reduced.

As a result of further study, we shall undoubtedly divide our cases of chronic interstitial nephritis into at least two or three clinical types.

A better understanding of these cases and a more careful study of the problems of nephritis will lead to more intelligent treatment and resulting benefit to the patient. A proper regulation of the diet,—not forgetting to provide a sufficient amount of nutrition,—will enable many of these patients to live in comfort for years longer than we have been taught to expect.

THE IMPORTANCE OF DIAGNOSIS AND TREATMENT OF PRIMARY SYPHILIS.

By C. Morton Smith, M.D., Boston.

The treatment of syphilis of the central nervous system, tabes and general paralysis is receiving widespread attention at present both in the clinic and laboratory. Syphilis was not recognized as the etiological factor in tabes and paralysis until recently. These conditions were classed as para-syphilitic affections, i.e. syphilitic in origin but not in character. Mercury and iodides had slight control over the progress of the disease in these cases, and with no exact knowledge of how these degenerative changes occurred, it was claimed they were due to toxins or by-products of the infection and corresponded with the nerve changes after diphtheria.

Noguchi’s demonstration of spirochaetes in the brain tissue of paralytics and the successful inoculation of rabbits with the spinal fluid of tabetics shows beyond a reasonable doubt that
we are dealing not with the action of toxines but the direct effect of the spirochaeta pallida. However, the fact remained in regard to the slight success of the old-time treatment.

Some tabeticcs responded to intravenous injections of salvarsan, but with many it was inefficient and pareties were not improved. Attention was called by Camp to the fact that arsenic was not found in the cerebro-spinal fluid in cases that had received salvarsan intravenously. This is said to be due to the selective activity of the choroid plexus, which allows only certain substances to pass from the blood stream into the ventricles. Flexner's work on meningitis suggested intraspinall injections, and Swift and Ellis devised their method of preparing and introducing salvarsanized serum. Following their lead, much careful work is being done along these lines and the results already obtained amply justify a continuation of this method of treatment as the process seems to be arrested or perhaps cured in some, while other cases are relieved of distressing symptoms.

The object of this article is to emphasize the importance of early diagnosis and prompt energetic treatment, for therein lies the reasonable hope of safeguarding the patient against these serious nerve lesions already mentioned.

During the comparatively short time that salvarsan has been in use a fairly definite method of application has been developed whereby it seems possible to sterilize the individual before the nervous system has been invaded. When energetic treatment with salvarsan and mercury is begun during the early primary stage the disease can be arrested in a large percentage, if not in all cases. If treatment is delayed until the secondary stage or later, it is still usually possible, but more difficult, to bring about the desired serologic change.

Syphilis may invade the central nervous system during the secondary stage and may or may not cause clinical symptoms. Henig, Bernstein advocates an early lumbar puncture in all cases of syphilis to determine the cell content of the spinal fluid, this being a more accurate guide to cerebro-spinal syphilis than the Wassermann reaction on blood serum or spinal fluid. He also favors a routine intraspinal injection of salvarsanized serum as a precautionary measure.

There is still need of an intimate clinical knowledge of syphilis although the diagnosis of a primary lesion no longer rests on clinical examination alone. Spirochaetes can often be demonstrated in primary sores only a few days old, either by the dark-field microscope, or in stained preparations. The latter is best suited for the general practitioner as no special apparatus is needed.

Many patients are exceedingly optimistic regarding their own possible primary lesion and lose valuable time before seeking advice, believing it to be only a "cold sore" or "chafe." Further time is also lost in some cases if we can believe the patient's statement that "the doctor said it was a soft sore and did not amount to anything," and later when a roseola appeared, explained that "it had backed up into the system ."

In the out-patient department of a large hospital the writer has been surprised at the small number of patients with primary syphilis or questionable lesions seeking or sent for advice or treatment. Not only does the welfare of the patient call for an early diagnosis, but the safety of the public also demands prompt recognition and healing of primary sores. Many small epidemics have been traced to an unrecognized primary lesion of the finger, lip or elsewhere. Numerous instances of this sort are on record, one of the latest being Schamberg's report of practically a dozen cases of infection about the mouth traced to a young man with a primary lesion of the lip who attended a party where kissing games were played.

There is still the same old necessity for a positive diagnosis before beginning treatment, but with the means already mentioned it is often possible to make a definite statement at the first visit. Failing to find spirochaetes the Wassermann reaction usually becomes positive three or four weeks after the appearance of the sore.

It is also important that the treatment begun early should be continued until a serologic as well as symptomatic cure is obtained. The Wassermann test is of value to the clinician as a measure of treatment, as well as an aid to diagnosis. A weakly positive reaction in a known syphilitic, or where the reaction has been strongly positive is an indication for further treatment. In a case for diagnosis, lacking history and clinical evidence, a weak reaction should be disregarded.

The treatment of early syphilis should comprise three to six intravenous injections of salvarsan given at ten-day or two-week intervals and supplemented by mercury, preferably by intramuscular injection. The effect is determined by a Wassermann test six to eight weeks after treatment has been omitted. If the test is positive the course of injections should be repeated. When such treatment is begun in the primary or early secondary stage a permanent negative test should be possible in six to nine months in the majority of patients.

By early diagnosis and active treatment we can hope to accomplish the following:—

1. Abort the disease in a large number of cases.
2. Protect the family and community.
3. Prevent the probability of transmission of syphilis to the offspring, some of whom may become a burden to the state.
4. Lessen the possibility of the so-called neuro-recurrences.
5. Probably safeguard the individual against late nerve syphilis.
6. Thus diminishing the likelihood of their becoming useless members of society, if not state charges.