TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the renal diseases met with in general practice. The first group of articles on Treatment in General Practice, thirty-five in number, was republished in book form last March by H. K. Lewis & Co., and a second volume will appear in the autumn.

CHRONIC NEPHRITIS AND URAEMIA

BY

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There is a variety of clinical conditions which can be properly included under the heading of chronic nephritis, and for the purposes of this article the syndrome may be held to include all cases of chronic progressive renal failure without oedema. In early cases there may be no symptoms, but the condition will be recognized by persistent albuminuria and increasing deficiency of the concentration power of the kidney (as shown by the urea concentration test and by the specific gravity of the urine becoming fixed at about 1010). Polyuria is characteristic, and in the later stages the retention of waste products in the blood stream gives rise to the symptoms of uraemia. The clinical picture may be complicated by symptoms due to the high blood pressure which usually accompanies the disease—for example, headache, retinitis, and sometimes heart failure or cerebral haemorrhage.

Chronic nephritis occurs in different forms at different ages. For instance, in children it may show itself as "renal dwarfism"; in young adults we meet chronic nephritis most frequently and most typically, either as a primary disease, as a sequel of acute or subacute nephritis, or, in women, as a late result of pregnancy albuminuria; in somewhat older patients—usually 40 to 50—we meet other cases of chronic nephritis, which some consider to be related to essential hypertension. These are the cases which are often called malignant nephrosclerosis.

It must be clearly understood that the ordinary cases of simple or essential hypertension, typically seen at the age of about 60 to 65, even though they may have albuminuria at times, do not develop renal failure, and the treatment described in this article does not apply to them at all.

General Treatment

The natural course of chronic nephritis varies so enormously (from a few months to fifteen or more years) that it is hard to lay down rules which will apply to all cases. The disease being progressive and, in the end, fatal, it is only possible to slow down its course and to relieve symptoms; it is therefore wrong to interfere too much with the freedom and activities of the patient. Thus, although moderation in all things and avoidance of heavy exertion are to be advised, in the more slowly progressive and early cases it is better for the patient to continue his occupation than to live an introspective and unhappy existence in much reduced circumstances. In more rapid or advanced cases work will be impossible, and rest in bed may be essential.

As in other types of nephritis, infections and sudden changes of temperature must be avoided. Any attack of tonsillitis or influenza will often notably increase the rate of progress of the disease. On the other hand, septic foci, as in teeth and tonsils, should only be dealt with surgically if the disease is early and the sepsis gross.

Medicinal Treatment

There are no drugs which directly influence the disease, and none should usually be ordered. If the patient is

constipated he should be told not to take powerful or irritant aperients. If the bowels cannot be kept working regularly on liquid paraffin (best given in doses of 1 to 2 drachms three times daily after meals) a saline aperient should be ordered, or if severe constipation exists an enema or colon washout (1½ pints of saline or water) when necessary.

For chronic nephritis in the latent, or symptomless, stage the only other drug which may be necessary for regular administration is iron if there is anaemia. Large doses should be given, such as 20 grains of iron and ammonium citrate thrice daily, or equivalent doses of one of the more palatable proprietary preparations.

Dietetic Treatment

As we are dealing with progressive renal failure the principles on which the diet should be based are quite clear—namely, the protein intake should be restricted to the minimum necessary for the replacement of tissue breakdown. There is no doubt whatever that careful dieting on these lines will delay the onset of uraemia or actually reduce the amount of nitrogen retention in the blood if it already exists. As there is polyuria and no oedema fluids may be administered liberally, and rigid restriction of the salt intake is neither necessary nor, in my opinion, desirable. The ordinary salt required in cooking may therefore be allowed, but extra salt should not be given if the patient has recently passed through an oedematous stage of nephritis.

These dietetic principles are expressed in the following menu:

Breakfast.—Weak coffee or tea with milk. Porridge or cereals with milk. Bread or toast and butter. Marmalade. Half an orange or grape-fruit.

Mid-morning.—Biscuits.

Lunch.—Potatoes and vegetables (*not* peas or beans).

Yorkshire pudding. Milk pudding or custard. 5 oz. fruit.

Tea.—Tea with milk. Bread, butter, cake, jam. 8 oz. salad.

Supper.—5 oz. fruit. Bread-and-butter (or biscuits).

No meat extracts. Sugar as desired. Fluids such as water, soda-water, lemonade, *ad lib.*

Add to the above diet 2 oz. meat, fish, chicken, game, ham, or cheese, at one meal only each day.

In severe cases the diet can be given for the first few weeks without the added protein, or the protein allowance may be restricted to three days a week. Thus we have a convenient "skeleton" diet which is largely carbohydrate and to which varying amounts of protein can be added according to the severity of the case.

Experience seems to show that it is unwise for these patients to take more than a minimal amount of fat, especially if they are liable to hypertensive crises.

Heart Failure

The illness of chronic nephritis is sometimes interrupted by heart failure, as shown by the development of dyspnoea, venous congestion, hepatic enlargement, and oedema of the dependent parts. For this strict rest in bed will be ordered, the fluid in the diet is restricted to about 1½ pints a day, and diuretics of the theobromine group may be given—for instance, 10 grains of diuretin thrice daily. Digitalis will be of little use unless auricular fibrillation is present, which is rarely the case. Morphine

is the only drug which relieves the nocturnal attacks of dyspnoea known as cardiac asthma. Even 1/6 grain hypodermically is often wonderfully efficient.

Pericarditis often occurs towards the end of chronic nephritis. It is not, however, usually painful, and requires no special treatment.

Cerebral Attacks

In cases in which the blood pressure is very high (diastolic 120, systolic 220 or over) it is common for the patient to complain of periodic disturbances usually ascribed to "biliousness." These take the form of severe headache and vomiting, and are often associated with spasm of the retinal arterioles, giving rise to blurring of vision or even blindness. Occasionally unconsciousness and convulsions will occur during such an attack.

These hypertensive crises are sometimes distinguishable from true uraemia only by examination of the blood for non-protein nitrogen or urea. During these attacks the patient will be in bed and the diet will consist merely of fruit, water, and glucose. An enema may be given, followed by the introduction of 3 oz. of 50 per cent. magnesium sulphate into the rectum. This tends to reduce cerebral pressure. If the headache is intense leeches applied to the temple will often relieve it in a remarkable manner. Venesection (at least 3/4 pint in an adult) may also be performed if there is no severe anaemia, and lumbar puncture, though less certain in its effect, is sometimes very helpful. Morphine may have to be used, and is not contraindicated by the renal condition. The same methods of treatment apply if the hypertensive crisis is accompanied by convulsions. Here chloral hydrate, 30 grains per rectum, may also be prescribed. Chloroform should be employed only as a last resource. After the attack the regular administration of a sedative such as phenobarbital 1/2 grain three or four times daily may prevent the recurrence of the crisis.

Uraemia

True uraemia is much more insidious in its development than is the hypertensive crisis. General weakness, thirst, dryness of the mouth and skin, drowsiness, loss of appetite, vomiting, and finally coma are its chief clinical manifestations. If the presence of uraemia is suspected and confirmed by blood examination the diet should again be restricted to fruit, glucose and water, or soda-water, the fluid intake being liberal (four pints daily) if not precluded by vomiting. Such a diet can be continued for several days: 10 per cent. glucose may also be given by the rectum (one pint slowly run in from tube and funnel), and if possible 400 c.cm. of 10 per cent. glucose (in sterile distilled water) should be slowly injected intravenously once or twice each day.

A simple way of giving intravenous injections of such a volume is by the use of the side-branch syringe (see illustration). This is a 2 c.cm. Record syringe with a short glass

side-tube leading from the barrel.* To this is attached about two and a half feet of rubber tubing, leading to a funnel or reservoir. The apparatus is first filled with glucose solution, by allowing it to run from the reservoir through the syringe and needle. The flow is stopped by pushing the piston of the syringe fully home. The needle is then inserted.

* This is made by Messrs. Down Bros.

Withdrawal of the piston brings blood into the syringe, showing that the needle is in the vein. When the piston is fully withdrawn the glucose solution runs in automatically through the side-tube, and can again be stopped by pressing the piston down.

Alternatively, the intravenous glucose may be administered by the continuous drip method from a vacuum flask if the apparatus is available.

In excited patients sedatives such as chloral may have to be prescribed, but are best avoided if possible. Sodium luminal, 3 grains subcutaneously, will often control persistent vomiting. In a few cases of uraemia severe dyspnoea develops—the so-called renal asthma. This is due to acidosis, and may be relieved by the administration of sodium bicarbonate, 30 grains every two hours.

If the uraemic patient improves the strictest dietetic treatment on the lines already laid down should be enforced in the future. The treatment of uraemia is more likely to be successful in patients not before under treatment than in those patients who have drifted into the uraemic state in spite of all attempts to modify the course of their disease.

Nova et Vetera

HISTORY OF ST. THOMAS'S HOSPITAL

The Nineteenth Century

Mr. F. G. PARSONS is to be congratulated very heartily upon the completion of his *History of St. Thomas's Hospital*.¹ In the first volume he told the previously unknown story of its origin; in the second volume of its palmy days in the time of Mead and Cheselden; in this, the third volume, of its decadence and recovery. The story ends for the present at the year 1900. There is already room for a fourth volume, but Mr. Parsons says that it must be left to another hand. This third volume, like the previous ones, is admirable. It is well written, is accurate in detail, mixes grave with gay, and will appeal to every student of St. Thomas's Hospital. It carries on the story through the time of the separation of the two borough hospitals; the removal from the site it had occupied for so many centuries to the temporary settlement at the Surrey gardens until it reached the magnificent position it now occupies facing the Houses of Parliament, with the broad river flowing between. The story of the hospital has not been easy to tell. Until Mr. Parsons undertook the task very little was known about its origin. In the course of time it served many purposes, though it always maintained its primary use as a hospital; it underwent radical changes of constitution from within and without; it changed its site. In these vicissitudes many deeds and important documents were lost. Mr. Parsons has been most successful in piecing together the fragments, and has thus made a lasting and valuable contribution to the history of medical charity in England.

Personalities of the Period

The present volume is of more personal interest than the other two. It deals as regards the medical school with men who were actually known to the author, or who are so little removed from our own time that their sons and daughters are still with us. The Souths, the Brintons, and the Bristowes may be taken as instances to show that we are only separated by a single generation from those who placed St. Thomas's among the first teaching hospitals of the world. With this knowledge Mr. Parsons has been able to give short biographies of many of the physicians, surgeons, and lecturers which will be read with great interest by those they taught, for he recalls mannerisms and small peculiarities that make them live again.

¹ *The History of St. Thomas's Hospital*. Vol. iii. From 1800 to 1900. By F. G. PARSONS, D.Sc., F.R.C.S., F.S.A. London: Methuen and Co. Ltd. 1936. (10s. 6d.)