Management of Patients with Chronic Renal Disease.

A great deal of time and energy has been devoted in recent times to the study of kidney function. Among important recent advances have come the electrocardiograph and the phenolsulphonephthalein test, and these functional tests have in many particulars modified practical management. Janeway (Amer. Journ. Med. Sci., February 1916) discusses the management of the different types of chronic nephritis met with in general practice. It has to be recognised that there is as yet no treatment based on the problem of its cause except in a very few instances, such as syphilis or lead poisoning. For the most part, treatment has in the past been purely schematic and based on a conventional diagnosis. Since this treatment usually involved violent interference with the habits of a lifetime, even though it did not use dangerous drugs, we cannot regard it as a harmless procedure. To tell every patient with albuminuria or hypertension to stop eating red meat or, still worse, to go on a milk diet, is evidence either of colossal ignorance or of inexcusable mental laziness. Much thought and tact is necessary to accomplish readjustment of the life of a patient with chronic disease to the necessary limitations. The treatment of chronic disease has two aims: the prolongation of life and the amelioration of discomfort. Chronic renal disease presents a great variety of symptom combinations, but certain clinical types occur so frequently that they present themselves as specific practical problems.

1. Patients in whom albumin and casts in the urine are the only evidence of disease. These come from insurance offices, from clinics for children, or may be found among supposedly healthy people. An important question to be settled is whether the albumin and casts are the last remaining evidences of a renal lesion which is healing. Pregnancy, scarlet fever, tonsillitis, syphilis, etc., may have caused nephritis without noticeable symptoms. If such possible cause can be found, or is even suspected, then a period of rest in bed with bland diet should be given a thorough trial. Great sacrifices should be made to prevent the development of chronic diffuse nephritis leading to contracted kidney in later life. If, however, there is no suspicion of a past or existing infection, and if a week in bed on milk diet has no
appreciable effect upon the albumin and casts, then bed and milk diet are an unwarrantable hardship, because they are sacrifice without result.

In children the next problem is the differentiation of postural albuminuria. The urine passed at different times of day should be tested separately, and the effect of standing fifteen to thirty minutes in a marked lordotic position will often clear up the diagnosis. In these cases a large amount of protein may be precipitated by cold acetic acid. The treatment should be on the lines of general invigoration with gymnastics, and diet should be ample, not restricted.

After separating these two types there remain a large number of patients in whom the cause of the albuminuria is not evident. In them it is of first importance to exclude local surgical conditions. Then a search should be made for a remote focus of infection in tonsils, teeth, gall-bladder, seminal vesicles or prostate. Possible toxic causes, such as the action of arsenic taken therapeutically, must be kept in mind. The effect of cold baths, exercise, and such factors should be studied. Apart from wholly temporary albuminuria, it is wise for the physician to regard albumin and casts as the evidence of a definite renal lesion but not necessarily calling for either a bad prognosis or much interference with the patient's life. It is even more important to watch their blood-pressure than their urine. If this begins to rise, then the development of symptoms is to be looked for. A tendency towards nocturnal polyuria or to fixation of specific gravity is an almost certain danger sign. These point to beginning inability of the kidney to concentrate urea, and therefore indicate anatomical damage which has reached the stage of seriously compromising the large factor of safety of the kidneys. Until hypertension, nocturnal polyuria, and other symptoms begin, symptomatic treatment is quite unnecessary. Safeguarding treatment is important, but must not go beyond what is of proved efficacy. Severe physical strain and exposure should be avoided. The wearing of woollen underwear is desirable. The excessive use of alcohol and tobacco should be warned against, and the common mild infections should be carefully treated. Condiments and creatinin are harmful, and therefore spices and soups should be avoided.

If the phenolsulphonephthalein test is normal there is no reason to restrict protein intake below a moderate ordinary. Patients should be advised to reduce the amount of salt used for the sake of the training in case it becomes imperative later.

Diabetics with albuminuria, unless the phenolsulphonephthalein test shows an excretion below 40 per cent. or there are definite symptoms such as oedema, should be submitted to the dietetic treatment of diabetes and the albuminuria should not interfere with this.

2. Patients with hypertension with or without a trace of albumen and with slight symptoms or none at all have come into special
prominence since the introduction of blood-pressure instruments. They are generally past middle age. There are changes in the renal vessels and arterioles elsewhere but there are no renal symptoms. Slight cardiac or neurasthenic symptoms are common. Safeguarding treatment is the entire problem of their management. All avoidable influences which raise blood-pressure should be excluded. Mental and emotional strain have a specially bad influence. A man of important business affairs should not be advised to give up work, though a mid-day rest may be enjoined. Adequate sleep is important. The effect of tobacco must be noted. Mild exercise is indicated, but mild anginoid pain calls for great care. When exercise cannot be allowed, massage is helpful. Moderation in the use of salts and fluid is required. Physiological economy in nutrition should be practised, but harm may be done by substituting unpalatable for accustomed food. A mild climate should be advised when winter conditions are severe. Vaso-dilators should not be used except in emergency. Aconite is valueless.

3. A large group is that where there is hypertension and definite myocardial insufficiency. They present primarily the problem of treatment of a circulatory disease. Both safeguarding and symptomatic treatment are essential. The phenolphthalein test should be carried out. Auricular fibrillation or oedema with congested liver is an indication for digitalis. If it does not succeed alone with proper diet, then one of the caffein diuretics should be given not oftener than every second day. Regulation of the diet is one of the most essential features of treatment. The three factors to be considered are the fluid, the salt, and the nitrogen. Practically all these patients require restriction of fluid, the degree of limitation depending on the output and the amount of oedema. It is scarcely possible, however, to discuss the water changes separately from the salt, since in these patients they are concurrent.

The most distinctive result of a test-meal in myocardial insufficiency without renal involvement other than chronic passive congestion is a low water output with a fairly high specific gravity, nearly always 1020, extremely low salt concentration and total output and a normal nitrogen excretion brought about by the high concentration of nitrogenous bodies in the urine. The greater the degree of accompanying contraction of the kidney the more the specific gravity tends to be fixed and at low level, nocturnal polyuria to become marked, and the concentration of nitrogen, especially in the night urine, to fall below the normal. With any of these features in evidence further tests for functional capacity of the kidney are required. A falling index of urea excretion or blood nitrogen above the normal indicates the need for limitation of the protein intake. The practical means for accomplishing this limitation vary from a low protein diet, which can never
be an exclusive milk diet, to the introduction of short periods of nitrogen starvation in the worst cases. In such periods carbohydrate food should be given freely to spare protein.

Where there is much oedema a salt-poor diet is essential and limitation of fluids also is required. These requirements may be met by giving 800 c.c. of milk daily as the only food or fluid allowed. When diuresis is abundant and dropsy disappearing, this may be increased to 1500 c.c. The abuse of salt, bulky meals, and large volumes of fluid should be interdicted for the future. Tobacco is harmful, but a little alcohol may be allowed. After recovery from urgent symptoms the return to activity must be very gradual. Massage, passive exercises, and hydrotherapy are all helpful.

4. A smaller group of cases has oedema as a prominent symptom without notable myocardial insufficiency. A large proportion of these cases have a subacute or chronic diffuse nephritis—a true inflammatory lesion involving glomeruli, tubules, and interstitial tissue. The common name given to this group, chronic parenchymatous nephritis, is altogether a misnomer. A number of cases under careful treatment prove to be protracted acute nephritis and eventually make a functional recovery. Others develop uraemia and enter another group. A few are examples of waxy disease. Still others are examples of a degenerative, probably toxic, lesion of the tubular epithelium. The pregnancy kidney is an example of this type. There is a marked inability to excrete salt. Treatment should always begin with a low water and salt intake. Sweat baths, purging, and hot packs may be required.

5. Uraemic symptoms may be superimposed on one of the foregoing types. The differentiation of the severe headache of uraemia and that due to cerebral vascular disease or of uraemia from an organic coma or hemiplegia may be very difficult. Lumbar puncture may help. Changes in the optic nerve or retina are nearly always present in uraemia, and functional tests show insufficiency. A test-meal (which must have a low protein content) may be employed. It will show nocturnal polyuria, fixation of the specific gravity at a constant level, which is too low, indicating inability to excrete the normal constituents in anything but low concentration. Nitrogen and salt concentration are equally reduced. Sodium chloride excretion may be affected as an isolated functional disturbance, but nitrogen excretion seems only to be affected in quantitative renal insufficiency in company with all of the other functions except water excretion, which may remain intact. This salt retention does not necessarily lead to oedema. There may be thirst, polyuria, and loss of weight, with dryness of the skin and tissues. The phenolsulphonephthalein test shows excretion diminished in proportion to the degree of renal insufficiency. Treatment is purely symptomatic. The distressing paroxysms of dyspnoea usually demand special relief. The low alveolar CO₂ shows acidosis, but alkalies may
fail to relieve. For many patients morphia alone is effective, but it occasionally precipitates the rapid onset of anuria with coma, and once begun has to be used in increasing doses. Chloral hydrate is often effective and should be given a trial. Insomnia is often connected with dyspnoea on first lying down or with dyspnoeic paroxysms through the night. One serious mistake is to insist on these sufferers going to bed. Bed soon acquires for them a mental association with respiratory distress and acts by suggestion as well as directly. The breaking up of this suggestion through a few good nights in a chair may make possible the return to restful sleep in bed. A vaso-dilator such as sodium nitrite before retiring may be of great service. The gastrointestinal disturbances are central or eliminative. Lavage may be tried, but for the most part general sedatives are required. Diet is generally reduced by the patients, since anorexia is the rule. In the severer cases only starvation can hinder the nitrogen accumulation. In the early cases a very low nitrogen diet is indicated with nitrogen starvation on days of severe symptoms, giving as much carbohydrate as possible. There may be great improvement, but more frequently it is merely a choice of evils. The amount of fluid allowed should depend on the urinary output, and should be limited by this or by the occurrence of edema. Of direct measures to reduce the retention of poisons, bleeding takes first place, but it increases anæmia. Bleeding and transfusion may be helpful. The operation of bleeding into a citrate solution, washing and returning the corpuscles, has been tried without much success. Bleeding has its greatest value in the case of sudden convulsive seizures. The removal of 500 or 600 c.c. of blood is indicated, and recovery is common. Associated myocardial insufficiency when it exists calls for treatment. The superposition of passive congestion on moderately damaged kidneys may precipitate severe renal insufficiency. Of equal importance is the urgent necessity for the treatment of any associated obstruction of the urinary tract. Backward pressure from an enlarged prostate with even a moderate amount of residual urine combined with only slightly damaged kidneys may lead to severe renal insufficiency with uræmia.

A. G.

**Surgery.**

UNDER THE CHARGE OF

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"QUIET HIP DISEASE."

Under the above title Taylor and Frieder (Surg., Gynæe, and Obstet., February 1916) record 22 cases of the condition usually known in this country as osteochondritis or Perthes' disease of the hip. The