kidney finds too much sugar present and immediately proceeds to excrete it in the urine. In order, however, that the large quantities of sugar may be excreted the fluid reserves of the body are depleted in keeping the sugar in solution. In this condition the metabolism of fats cannot be completed and the patient develops acidosis.

SYMPTOMS OF DIABETES.

1. Polyuria; 2. Symptoms due to dehydration which may be classified as follows:—(*a*) Thirst, mouth dry, tongue raw and "beefy"; (*b*) Constipation. This is due to the dryness of the intestinal tract and its recurrence in a case under treatment is a valuable warning that the blood sugar is again increased; (*c*) Dry skin. Ailments consequent on the poor nutrition of the skin such as boils, carbuncles and pruritis may develop; (*d*) Effect upon the eyes. In addition to the possibility of diabetic cataract, retinitis, iritis, or optic atrophy, there occurs the typical condition of soft eyeball. This is due to absorption from the eye of the fluid which constitutes the aqueous humour so that the eyeball feels soft to the touch, and of course the patient's vision is affected. A patient may have had glasses to suit his eyes after the diabetes has developed and, should he then commence treatment, he will complain that he cannot see so well. This is due, not to further impairment of the vision but to its improvement, since, under treatment, the eyeball is returning to normal. (3) Effect on the nervous system. Diabetic neuritis may lead to perforating ulcers. These are most common on the soles of the foot and the big toe. (4) Mental conditions. In the early stages of acidosis the patient is often discontented and irritable. This irritability is also apparent in patients whose insulin is not completely stabilised. (5) Diabetic colic. This may be so severe as to be mistaken for a perforated gastric ulcer or acute pancreatitis, both of which are possible emergencies which have to be kept in mind in dealing with diabetics. There are a number of other symptoms which may give the first clue to diabetes. One has only to think of all the different departments of a hospital to realise that diabetics may be found in every one. For example, there may be diabetic gangrene in the surgical departments, in the ophthalmic departments cataract, etc., in the gynæcological departments amenorrhœa and a sterility due to diabetes. The disease also produces impotence in men. Diabetics are prone to develop tuberculosis, although it is seldom that a tuberculous person will develop diabetes. (6) Acidosis. If the patient is not comatose there will probably be marked irritability and loss of appetite. The diabetic acute abdomen or diabetic colic is often complained of. There is present in the urine a large quantity of acetone and sugar.

COMPARISON OF DIABETIC AND HYPOGLYCAEMIC COMA.

In comparing diabetic and hypoglycæmic coma, Dr. Barling indicated the symptoms as follows:—

DIABETIC COMA.	INSULIN COMA.
1. Onset usually gradual.	1. Onset usually rapid.
2. Tongue dry.	2. Tongue moist.
3. Pulse feeble and poor.	3. Pulse normal.
4. Respirations slow and deep.	4. Respiration rapid and shallow.
5. Flexor reflex of sole of foot.	5. Extensor reflex of sole of foot.

The onset of hypoglycæmia is usually marked by a feeling of faintness and giddiness. The patient may become irrational or even violent. Sometimes an oncoming attack may simulate alcoholism and a patient may be arrested. This is liable to happen if the patient has been to a dance, even if he has taken his usual amount of insulin and food. The energy used up in dancing may reduce the blood sugar so that effects similar to an overdose of insulin are produced. It is wise for a diabetic to take a slightly larger amount of carbohydrate than usual if he is going to indulge in unwonted exercise.

TESTS USED IN DIABETES.

Passing over the tests for sugar in the urine, which are too well known to call for reference, Dr. Barling reminded his audience of the fact that it is useless simply to withdraw, by catheter, the urine of a patient who is in a coma, and then test that. The urine may have been in the bladder for hours and will not prove an accurate guide to the amount of sugar in the blood. The bladder should be drained of urine and a self-retaining catheter introduced. The urine is thus drawn off and tested at regular intervals, and it provides a clue to the condition of the patient. Of the tests for acetone, the sodium nitro-prusside test is far the most accurate; it is sensitive to one part acetone in a thousand parts urine. The ferric chloride test is only sensitive to gross quantities of acetone. Dr. Barling said that, on the whole, the urine tests, if carried out carefully, are just as accurate as the blood sugar test, and are more easily performed. The normal blood sugar is .08 to .12 (or 80 to 120 mgrs. per 100 c.c.). The sugar tolerance test is used to estimate the degree of diabetes present. The patient is given, after twelve hours' fasting, 50 grms. of glucose in 100 c.c. of water. The blood and urine are examined before the glucose is given and every half-hour for a fixed period afterwards. In normal persons the blood sugar rises, following the dose of glucose, but returns to normal after two hours. In the diabetic, on the contrary, the blood sugar begins to rise at once and continues to rise. The blood sugar may go as high as .25 to .3 (250 to 300 mgrs. per 100 c.c.). When the blood sugar rises above a certain level the kidney begins to excrete it in the urine. The point at which this happens is called the renal threshold for sugar. Normally, when the blood sugar rises above .18 (or 180 mgrs. per 1 c.c.) the sugar begins to appear in the urine. Occasionally we find a patient who has sugar in the urine who is not suffering from diabetes. The probable cause is a diseased and defective kidney. The condition of renal glycosuria is treated by frequent small carbohydrate meals during the day. It can be easily detected by taking the blood sugar and comparing this with the results of the urine test. In occasional cases we find that a diabetic patient has an abnormally high renal threshold. He may be suffering from the disease to a considerable degree without sugar being present in the urine.

(To be concluded.)

THE TRAINED NURSES' ANNUITY FUND.

The annual meeting of the Trained Nurses' Annuity Fund was held on Friday, May 27th, and the report placed before it showed that the Fund had done a great deal of useful work for nurses in reduced circumstances who have been suffering from sickness or have reached an age at which they are no longer able to continue in their profession. Both subscriptions and donations show an increase on the previous year, and the invested capital has been considerably augmented.

ENGAGEMENT.

We have to announce the engagement of Miss Eileen Wood to Mr. Butler Farrington, of the Vicarage, Nun Monckton, Yorks. We offer to them all good wishes for their happiness. Miss Wood is a member of the Association's Co-operation for Private Nurses.

MARRIAGE.

On Saturday, May 27th, Miss Margaret Elaine Campbell was married to John Keith Cunninghame, Esq., M.D., F.R.C.S., at St. Anne's Church, Eastbourne, and there was a reception later at Enys House, Eastbourne. Prior to her marriage, Mrs. Keith Cunninghame was on the Association's Co-operation for Private Nurses.

194, Queen's Gate,
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ISABEL MACDONALD,
Secretary to the Corporation.

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