

A REPORT OF THREE CASES OF DIABETES MELLITUS.*

By DR. GEO. HODGE, LONDON.

Diabetes mellitus is always a grave disease, and especially so in young adults and children. Under a recent method of treatment—a diet regulated in *quantity* as well as in *quality*—many cases, which would heretofore have run an unfavorable course, are now treated with a considerable measure of success. A knowledge of the pathology of the disease is essential to its rational treatment.

In health, carbohydrate food is taken into the system, and in the alimentary canal is converted into a soluble product, which is absorbed and carried to the liver, where it is stored as glycogen. The liver, by a regulating mechanism, converts glycogen into sugar, which is carried to the tissues and assimilated. By abnormal conditions these functions are upset, the liver does not store glycogen, but allows the carbohydrate food to pass directly to the circulation as sugar. Not only is there an interference with the glycogenic function of the liver, but there is also a failure of the sugar-destroying function of the tissues. This latter fact has been established by Professor Bouchard, who has worked out the consumption of sugar in health and disease. He has shown that young, thin persons, in health, consume much more sugar, per kilogramme of body weight, than aged, fleshy people. He has also calculated the amounts of sugar consumed per kilogramme of body weight by a number of diabetics, and has compared the results with the figures obtained from normal individuals of the same age and weight, and found that all diabetics exhibit a very great reduction of their sugar-consuming power.

The treatment should aim at restoring the sugar-consuming power of the tissues. This is to be done by constructing a diet, as far as possible free from carbohydrate, and which will contain an amount of heat units proportional to the weight of the patient. According to Bübner, a man consumes the following quantities in twenty-four hours for each kilogramme of body weight: During repose, 32.9 heat units; on slight work, 34.9 heat units; on moderate work, 41.0 heat units; on hard work, 48.0 heat units. So that a person weighing 150 lbs. (75 kilos.) would at slight work require daily a food equivalent to about 2,600 heat units. A diabetic would require, in addition to this, a quantity of food equal to the amount of sugar excreted daily by the kidneys. Thus given the heat units of certain articles of diet and the percentage of carbohydrate they contain, it is

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