

CAUSE OF DIABETES MELLITUS.

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So much has been written recently on the cause of diabetes mellitus that it is hard for a nurse to know just what is the latest information on the subject. She is frequently confronted with the question from her patient or her patient's relatives: "Just what kind of kidney trouble is sugar diabetes, and what causes it—too much sugar in the diet?" and she has become so accustomed to answering—"No, it isn't kidney trouble at all; it is thought to be trouble with the pancreas, while the kidneys are only the accommodating organs that relieve the overloaded blood of its excess of sugar"—that she is in danger of dismissing the subject from her mind at this point. I wonder if, as nurses, you would not like to consider the matter more fully.

It has long been known that besides the function of secreting pancreatic juice, the pancreas also manufactures an internal secretion which the blood takes up on its journey through this organ, and which, when distributed to the various cells of the body, makes it possible for them to use sugar. If for any reason this internal secretion is absent, the cells are unable to burn sugar and the blood becomes overloaded with it, when it is dumped into the kidneys and excreted in the urine. The pancreatic function of producing an internal secretion is attributed to the Islands of Langerhan, tiny bodies found throughout the organ. Any amount in excess of 0.1 per cent. to 0.2 per cent. of sugar in the blood is an irritant and will be excreted by the kidneys. It is interesting to note that sugar is also an irritant to the kidneys, and in order to excrete it they require great quantities of water, which gives rise to the polyuria always to be noted in cases of diabetes mellitus.

While in more than one-half of the cases studied the pancreas has shown decided pathological changes in its structure, it is not always to be blamed for the appearance of sugar in the urine. It has more recently been learned that the pituitary gland, that little organ at the base of the brain, has a very decided action over the assimilation of sugar, and that disturbances of the posterior lobe of this organ will be followed by glycosuria. Likewise, the suprarenals and the thyroid, two other internal secretion glands, have experimentally been found to exert a controlling influence over sugar metabolism.

It is well known that when carbohydrates, whether in the form of starch or sugar, are taken in excess of the amount needed for immediate use, the liver takes much of the digested product from the blood and manufactures it into glycogen, in which form it is stored, later to be reconverted into glucose and doled out to the blood as it is needed by the system. Now if this glycogenic function of the liver is interfered with, either through organic liver trouble or through disturbance of the nervous system, the blood, much of the time, will have more sugar than its normal capacity will permit it to handle, *i.e.*, 0.2 per cent., and the kidneys will be called upon to eliminate it. Indeed, a temporary glycosuria may occur in a normal person at any time, if he eats excessively of sugar, especially if it be of the simple sugar class, for very little or no digestion is required of this product, and although the liver may be working overtime to care for the excess, the digestive organs may be loading up the blood so rapidly that the kidneys have to come to the rescue. This temporary glycosuria is of no pathological significance; it requires only a few hours of time for the system to adjust itself. The nervous system is known to have a direct influence upon sugar metabolism, especially the sympathetic system, but just how, has not been agreed upon by students of this subject.

There is one other phase of the study that is well worth our attention. Contrary to former teaching, there are some cases in which the kidneys are actually at fault, for instead of allowing the blood to carry its allotted amount of sugar, they extract it when the blood is carrying even less than 0.1 per cent., much as they do albumen in cases of Bright's disease. This, however, is very rare, and should not be considered of sufficient weight to cause one to agree with the commonly accepted opinion of the laity that diabetes is a kidney disease. That the kidneys do eventually become diseased in cases of diabetes mellitus is due to the fact that sugar is not a normal constituent of the urine, and will, in time, so irritate the organs as to bring about grave pathological changes in their structure.—*American Journal of Nursing.*

OUR PRIZE COMPETITION.

We regret we are unable to award a prize this week. Presumably nurses are too busy with Christmas preparations in hospitals, infirmaries, districts, and elsewhere, to take time to write prize competition papers.

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