

## OBSERVATIONS AND REMARKS ON GLYCOSURIA.

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By glycosuria I mean the presence of glucose in the urine and detectable by the ordinary clinical tests. I shall therefore apply the term to a permanent as well as to a temporary appearance of glucose in the urine. I make mention of this inasmuch as many writers restrict the term glycosuria to a temporary appearance of glucose in the urine and designate permanent diabetes mellitus.

Although a great deal of work has been done in studying glycosuria, both in animals and in man, the pathogenesis of the malady is not well known. We do, indeed, know many facts concerning the causation and nature of the morbid affection, but so far no one has been able to formulate a theory of glycosuria in keeping with all known facts. All are agreed that the condition is a perverted physiological process, involving the capacity of the organism to care for sugar; but the exact manner in which this perversion is produced and the sequence of pathological events which lead to it, have not been determined. This defect in our knowledge is, no doubt, due to the great complexity of the metabolism of carbohydrates. We know that the nervous system, liver and pancreas take part in the work, and also probably muscle and other tissues of the body; but we do not know how their functions, involving carbohydrate metabolism, are correlated. For the present, therefore, we must make the best of the situation, making use of all known physiological and pathological, as well as clinical observations bearing on the subject. These should, I think, be our guides in the diagnosis and treatment of the disease. Some of the more important of these observations are the following:

1. The normal quantity of sugar in the blood is about one in a thousand. The sugar gives all the reactions for glucose; but whether it is free or loosely combined with another substance has not been decided.

2. Hyperglycemia is present in all cases of glycosuria, temporary as well as permanent, except in those due to undue permeability of the kidneys to glucose (renal glycosuria). This has been shown by Naunyn, Seegen, Pavy and other investigators.