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DIABETES AND PREGNANCY*

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THE subject, diabetes and pregnancy, is brought before the Association for discussion in the hope that we may arrive at some more definite conclusions regarding the prognosis and treatment.

INCIDENCE

If we are to judge from what appears in the standard textbooks on obstetrics relative to this subject, pregnancy complicating a true diabetes is a rare condition, Williams in 1909 being able to collect only 66 cases in the medical literature. It is quite conceivable, however, that many cases may have died in coma supposedly uremic, when, in reality, the condition was an unrecognized diabetic coma, since a hyperglycemia may exist with a high renal threshold and no glycosuria. Most textbooks dispose of this subject by stating that it is a very grave complication of pregnancy and give a gruesome picture with a maternal mortality of approximately 30 per cent and a fetal mortality of 50 per cent or higher.

The writer believes these figures, with our present understanding

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and treatment of this condition, must be materially modified, as these percentages were based on the old time treatment of diabetes when no blood chemistry tests were made. It is my purpose to discuss more especially the true diabetes of pregnancy or, perhaps, it might be better to say pregnancy complicating a true diabetes, and to cite two cases occurring in my practice recently in which the outcome illustrates quite clearly the importance of the modern treatment of true diabetes. In order to arrive at a clear understanding of what constitutes a true diabetes in a pregnant woman, a brief discussion of the different types of glycosuria may not be amiss at this time.

Lactosuria, as is well known, is a condition in which milk sugar is found in the urine and is due to resorption of milk from the breasts and its excretion by the kidneys. It can be distinguished from grape sugar by the fact that Fehling's solution can be reduced after the fermentation test has been applied.

Alimentary glycosuria is a condition sometimes called "physiologic glycosuria" where grape sugar is found in the urine especially in the latter months of pregnancy, but the characteristic symptoms of a true diabetes, such as furuncles, pruritus, thirst, etc., are absent. It is due to an excessive ingestion of starches and sweets in the diet and disappears promptly when these are withheld.

Renal diabetes is a condition where there exists: I. A fairly constant glycosuria not affected by carbohydrate intake, thus distinguishing it from alimentary glycosuria. II. Absence of symptoms of diabetes. III. A *normal* blood-sugar content. In these cases glycosuria is more or less constant in each pregnancy, but the sugar disappears promptly from the urine after delivery.

Diabetes mellitus is differentiated from the other types of glycosuria in that a hyperglycemia is present together with the characteristic symptoms of true diabetes—thirst, pruritus, etc., thus distinguishing it from the so-called renal diabetes.

Obviously, therefore, when confronted with a glycosuria in a pregnant woman our first concern should be to determine whether or not we are dealing with a hyperglycemia. This may be done by a careful inquiry into the patient's family and personal history, applying the regular tests for the milder forms of glycosuria and a careful bloodsugar estimation, in order to determine if the renal threshold has been passed and sugar is being poured out in the urine.

If it is found that we have one of the milder forms of glycosuria to deal with, we may rest assured the case will terminate favorably with the ordinary attention to diet, and, in the renal type, an occasional blood ratio test. Should, however, the case prove to be one of hyperglycemia, the question then arises: Shall we terminate the gestation

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living and active. She reported again at term, feeling in the best of spirits, but on auscultation and palpation it was found the child was dead *in utero*. Labor was induced with Voorhees' bag, the patient making an uninterrupted recovery. The urine still shows a marked trace of sugar. On more careful inquiry into her history before marriage it was found that she had, at times, been troubled with a vulvar pruritus and thirst; but she had never consulted a physician.

This case, I believe to have been one of a long standing mild hyperglycemia with a high renal threshold as it was an easy matter to render the urine free from sugar by simply withholding the carbohydrates, and a more favorable outcome might have resulted had the true condition been determined and proper treatment instituted earlier in her pregnancy.

In conclusion permit me to suggest: 1. That a more careful prenatal history be taken in all obstetric patients. 2. That a blood-sugar estimation be made in all cases in which symptoms of diabetes are present regardless of the presence or absence of glycosuria. 3. That a fair trial of the newer forms of treatment of diabetes be instituted before terminating the pregnancy.

The writer is indebted and deeply grateful to Dr. O. C. Foster, Chief Resident in Obstetrics, Harper Hospital, for valuable assistance in the preparation of this paper.

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(*For discussion, see p. 77.*)

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Society Transactions

AMERICAN ASSOCIATION OF OBSTETRICIANS, GYNECOLOGISTS, AND ABDOMINAL SURGEONS. THIRTY-FOURTH ANNUAL MEETING HELD AT ST. LOUIS, MO., SEPTEMBER 20, 21, AND 22, 1921

THE PRESIDENT, DR. HENRY SCHWARZ, IN THE CHAIR.

DR. JOHN N. BELL, of Detroit, Mich., read a paper on **Diabetes and Pregnancy.** (For original article see page 20.)

DISCUSSION

DR. IRVING W. POTTER, BUFFALO, N. Y.—I can report four cases of pregnancy occurring in diabetic women. The first was a woman who had undergone reverses and while three months' pregnant went into a state of coma, following a long period of mental and physical exertion. She was brought to me by a physician, and I refused to terminate the pregnancy. Possibly if I had she might have been alive. Another case came from Toronto, a distinct type who went into labor at full term and was delivered of a dead baby. She went on to recovery but still has her diabetes. Another case was a true diabetic, with a brother who was diabetic and was treated for years for the disease. She also lost her baby. The fourth case was the daughter of one of our most prominent families whose father was a diabetic, and an uncle who was a diabetic has since died of the disease, but she was carried along through the entire pregnancy, and was delivered by myself of a perfectly healthy baby at full term. She, however, shows a considerable amount of sugar in the urine and is very rarely sugar free.

DR. M. A. TATE, CINCINNATI, OHIO.—Some ten years ago I presented to this Association a paper on glycosuria complicating pregnancy. One of the two greatest advances in obstetrics, as brought out by Dr. Bell, is prenatal care. Every pregnant woman when she consults a physician should receive a most careful examination, particularly of the urine. If we have a case of true diabetes, the patient having suffered for a number of years, that patient should not, in my opinion, be allowed to go on to full term. If we have a temporary glycosuria that patient can be carried through by appropriate treatment.

DR. BELL (closing).—It seems to me it is a question of just how long before term we should believe a patient could be carried to term with modern treatment. I had hoped that some of the members would discuss that point. For instance, a patient presents herself, as in my case, four or five months before term: will you, knowing she has a true diabetes, attempt to carry her to term or will you not? This case, of course, may have been an exception and had a very fortunate outcome, but I believe we should make some effort to carry these women to term in the hope that they will come through all right.

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