



EDITORIALS

DIABETES AND PREGNANCY

In the last few years, the relation of diabetes and pregnancy has been the subject of numerous reviews. Observations made in several countries¹⁻⁸ have supplied many thought-provoking facts. The clinical reports concentrate on such things as the management of the pregnant mother and the reduction of fetal mortality. Like the arteriosclerotic complications, the problems of the pregnant diabetic have grown rapidly since the discovery of insulin and the prolonged survival of young women with diabetes. The physiological implications of many of the observations of the last ten to fifteen years are assuming more and more importance. Some of the facts may be put together as follows.

Diabetic women of childbearing age may have children at practically no increase in risk to themselves, provided their diabetes receives good care. There is still a considerably increased fetal wastage. All authorities agree that good management of the diabetes, which probably means good nutrition,⁹ must be the physician's first concern. The hormonal response to pregnancy includes a great excess in the production of adrenal cortical hormones,¹⁰ this excess approaching the quantities excreted in Cushing's syndrome (Touchstone, unpublished). However, the adrenal hormones thus measured in blood and urine are essentially the same during pregnancy in diabetic and normal women. Since normal women have no disturbance of carbohydrate metabolism from these endocrine responses to pregnancy, one assumes that the increased insulin requirement of pregnant diabetics, which commonly amounts to a total of 90 units daily in the third trimester, is the result of an increased demand coupled with their deficiency of insulin. The deficiency of the insulin reserve of the "prediabetic" woman during pregnancy may also be revealed by sugar tolerance tests performed after the fourth month.⁴ The prevention of large babies by modern pelvimetry and cesarean section when indicated improves the outlook for mother and child. The older, and well-confirmed, studies on the

increased frequency of large babies (with birth weight over 10 lb. or 4500 gm.) in women destined to become diabetic 5 to 15 years later⁸ offers a possible opportunity to anticipate the onset of frank diabetes by many years. All authors agree on this increased frequency of large babies in "prediabetics" and an extensive investigation of pregnant women is being undertaken by Dr. Hugh L. C. Wilkerson and his associates of the U. S. Public Health Service in cooperation with the Children's Bureau of the Massachusetts Department of Public Health to see if a new avenue of preventive medicine can be opened.

The experimental and clinical hypotheses of Hoet⁴ and others^{1-3,5-7} are still young and much work remains to be done before pregnancy can be viewed in true perspective as a factor predisposing to diabetes in those who already have some form of familial (genetic or developmental) defect. In this difficult area there are many discrepancies and inconsistencies which are not labored here because their resolution demands more investigation rather than editorial ink. In the last analysis, students of diabetes will be grateful to all of the observers who have advanced this approach to the study of a disease whose natural history seems to extend from the patient's grandparents to the patient's grandchildren.

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REFERENCES

- ¹Moss, J. M., and Mulholland, H. B.: Diabetes and pregnancy: with special reference to the prediabetic state. *Ann. Int. Med.* 34:678-691, 1951.
- ²Bachman, C.: Diabetes mellitus and pregnancy with special reference to fetal and infantile loss. *Am. J. M. Sc.* 223: 681-693, 1952.
- ³White, P., Koshy, P., and Duckers, J.: The management of pregnancy complicating diabetes and of children of diabetic mothers. *Medical Clinics of North America.* 37:1481-1496, 1953.

⁴ Hoet, J. P.: Carbohydrate metabolism during pregnancy. *Diabetes* 3:1-12, 1954.

⁵ Pirart, J.: Prédiabète et grossesse. *Ann. d'Endocrinologie* 15:58-72, 1954.

⁶ Oakley, W.: Prognosis in diabetic pregnancy. *Brit. Med. J.* 1:1413-1415, 1953.

⁷ Andersson, B.: Diabetes and pregnancy. *Acta Med. Scand.* 138:259-278, 1950.

⁸ Futcher, P. H., and Long, N. W., Jr.: Hospital data on the birth of large infants to "prediabetic" mothers. *Bull. Johns Hopkins Hosp.* 94:128-138, 1954.

⁹ Whitacre, F. E.: Nutrition in prenatal care. *J.A.M.A.* 155:112-114, 1954.

¹⁰ Gemzell, C. A.: Blood levels of 17-hydroxycorticosteroids in normal pregnancy. *J. Clin. Endocrinol. and Metab.* 13:898-902, 1953.

POSTGRADUATE COURSES

The major objective of the American Diabetes Association is to bring about a clearer understanding of diabetes so that patients may experience a minimum of difficulty and discomfort. Continuing investigations in the various research centers are yielding important new information bearing on the cause, pathological physiology, clinical manifestations, complications, new methods of therapy, and prevention of diabetes. The health of the future diabetic depends on the researches of today. A large amount of important knowledge has been gained in the last quarter century. Much of this has not yet found its way into the daily routine practice of physicians who represent the shock troops in the battle for better diabetes control.

While research is being encouraged and supported at various centers, it is important that the deliberations of authorities in the basic sciences and at the clinical level be given adequate presentation and interpretation. It is self-evident that the better the understanding on the part of the physician and the more intelligent and cooperative his patient, the more satisfactory will be the results. Education then, follows research as an important principle for diabetes control.

The American Diabetes Association is an organization made up of basic scientists and clinicians whose interests include research, the care of patients, and education of the profession and public at large.

The policies of the Association deal with encouragement of research and an expansion of training programs. Through its Journal *DIABETES* the various areas of research in nutrition, metabolism, endocrine disorders and associated fields are given scope for expression. The Journal is filling an important need of medical science,

as is demonstrated by the increase in its circulation. Many of its papers are derived from the annual spring meeting of the Association which furnishes an opportunity for investigators to present their findings to the membership of the Association.

A few years ago the Council of the Association appointed a committee on Postgraduate Courses. Two courses have already been given with gratifying success—the first at Toronto in January 1953 and the second at the Mayo Clinic in Rochester, Minnesota, in January 1954. The third Postgraduate Course will be given January 19-21, 1955, at The Lankenau Hospital in Philadelphia. The first two courses were oversubscribed and unfortunately not all those desiring to enroll could be accommodated. It is the policy of the Association to give preference to those applicants who were not accepted for the preceding courses and who desire to enroll in the next following course.

While the courses were in progress, members of the class were requested to give their frank comments regarding topics, speakers, the scope of the course and any other pertinent information they desired to offer. This has resulted in a considerable number of exceedingly helpful comments. Some of them refer to omissions in subject matter. For example, requests have been made several times for a discussion of "The Elderly Diabetic"; others requested a discussion on "The Treatment of Dia-

The report from Dr. H. S. Everett of St. Stephen, New Brunswick, Canada, contained both praise and constructive criticism. Ed.

A general practitioner looks back on the Second Annual Postgraduate Course. What a stimulating experience and what a privilege to meet and listen to the great and near-great in the diabetic world. Excellent papers, ably presented, good fellowship and hospitality from all I met. The general high plane of the whole meeting made it a very memorable experience and one I hope to repeat at Philadelphia next year.

I was somewhat perturbed, however, by the attitude of some of the speakers towards the use of insulin, namely, that one must be very careful and that severe or even mild reactions are very much to be dreaded, much more so than brick tests of the urine. Also that absolute control of diabetes was a goal that could only be attained in a few special cases and in fact wasn't even a goal. . . . I must confess that for the last twenty years, during which time I have successfully treated many diabetics, I have made absolute control the goal for all. . . . Naturally, I have tried to avoid severe reactions but I have never worried about them when they did occur nor have I seen any harm come from them and I have seen some very severe reactions in labile diabetics. . . .

I throw a challenge to the specialists in diabetic care and treatment. Are you giving us general practitioners and the millions of diabetics on this continent and in the world the proper lead in this most important question?