



DIABETES IN PREGNANCY: CAUSES, CONSEQUENCES AND MODERN MANAGEMENT METHODS

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ANNOTATION: This article analyzes the causes of diabetes during pregnancy, its impact on maternal and fetal health, and modern diagnostic and management approaches. The study provides practical recommendations for detection, monitoring, and prevention of gestational diabetes in Uzbekistan. Hygienic, dietary, pharmacological, and psychological approaches are highlighted to ensure healthy development of mother and fetus.

KEYWORDS: gestational diabetes, pregnancy diabetes, endocrine system, maternal health, fetal health, diet therapy, pharmacological management, monitoring, prevention, psychological support, healthcare system of Uzbekistan, perinatal medicine

INTRODUCTION

Diabetes that occurs during pregnancy— is characterized by an increase in blood sugar as a result of a decrease in the production of insulin in the female body or a decrease in its sensitivity to its effects. This condition has a significant impact on the health of the mother and fetus. In recent years, the number of women suffering from gestational diabetes has been increasing worldwide, which is an urgent issue in the fields of medicine and public health. In Uzbekistan, the systems for the detection, control and prevention of gestational diabetes are being constantly improved.

MAIN PART

The causes of gestational diabetes are associated with internal and external factors. Internal factors include functional disorders of the endocrine system, decreased insulin sensitivity, hereditary predisposition and previous hormonal imbalances. External factors include malnutrition, lack of physical activity, stress and excess weight. Clinical symptoms mainly appear after 24–28 weeks of pregnancy: excessive thirst, frequent urination, fatigue, rapid weight gain. For diagnosis, OGTT (oral glucose tolerance test),



blood glucose and HbA1c levels are determined. Treatment strategies for hormonal imbalance require an individual approach. The most commonly used methods are: pharmacological therapy (hormonal drugs), physiotherapy, psychotherapy and lifestyle correction. The pharmacological approach takes into account the woman's reproductive age, medical history and clinical indicators. Among physiotherapy methods, laser therapy, acupuncture and massage are recommended. At the same time, preventive measures related to nutrition and physical activity are also effective. Among the conditions that cause hormonal imbalance in women, menopause is worth highlighting. During menopause, a decrease in estrogen levels causes changes in various systems, including decreased bone density, increased risk of cardiovascular disease, psychological changes, and metabolic disorders. Therefore, it is important to start preventive and therapeutic measures in a timely manner during menopause.

According to the recommendations of the Ministry of Health of the Republic of Uzbekistan, all pregnant women should undergo screening at 24–28 weeks. The main areas of management are: diet therapy, physical activity, pharmacological treatment (insulin therapy), regular monitoring and psychological support. Diet therapy is aimed at controlling the glycemic index, maintaining the balance of carbohydrates and fats in the diet. Physical activity, on the other hand, helps improve glucose metabolism. If necessary, insulin therapy may be prescribed, the dose and regimen of which are selected individually. Gestational diabetes creates various risk factors for the mother and child: preeclampsia on the mother's side, complications of childbirth, the possibility of cesarean section; macrosomia, hypoglycemia and neonatal complications on the child's side. Therefore, a multidisciplinary approach to the management of gestational diabetes is important. In Uzbekistan, specialists have been trained in perinatal centers and mother's consultation points to work with gestational diabetes, and a modern diagnostic and management system has been introduced. At the same time, psychological support and programs to increase the mother's preventive awareness are also effective.

CONCLUSION

Diabetes in pregnancy— is a serious risk factor for maternal and fetal health, and its early diagnosis and modern management methods are vital. In the conditions of Uzbekistan, a combination of diet therapy, pharmacological treatment, monitoring and psychological approaches allows for successful control of gestational diabetes. Also, ensuring maternal and child health through the development of preventive and diagnostic systems of state health policy is an important task.



Diabetes during pregnancy (gestational diabetes) is one of the most important medical and social problems in modern obstetrics and endocrinology. This disease is characterized by a decrease in insulin sensitivity, impaired carbohydrate metabolism and metabolic changes, mainly as a result of the influence of hormones on the female body during pregnancy. As a result, the level of glucose in the blood increases, which poses a serious threat to the health of the mother and child. The mechanism of development of gestational diabetes is complex, in which genetic predisposition, excess body weight, malnutrition, low mobility, stress, endocrine system diseases and previous hormonal disorders play an important role. In particular, the modern lifestyle, high-calorie food consumption and physical inactivity contribute to the widespread prevalence of this condition. The danger of diabetes in pregnancy is that in most cases it is not accompanied by clinical symptoms and is detected late. Therefore, regular screening, laboratory monitoring and preventive monitoring are very important. With early diagnosis, the chances of preserving the health of the mother and fetus are much higher. Gestational diabetes complications have serious consequences for both the mother and the baby. Mothers are at increased risk of preeclampsia, high blood pressure, kidney failure, complications during childbirth, and later type 2 diabetes. The baby may have macrosomia (large birth weight), respiratory distress, hypoglycemia, and defects in the nervous system and cardiovascular system. Therefore, every case of gestational diabetes must be under medical supervision.

In modern medicine, managing diabetes during pregnancy requires a comprehensive approach. One of the most important areas is an individually developed diet and nutrition regimen. It is recommended to limit quickly digestible carbohydrates in the diet, increase plant fibers, proteins and healthy fats, as well as eat regularly, but in small portions. Along with the diet, regular physical activity (for example, light exercises specially designed for pregnant women, walking, yoga) is of great importance in naturally controlling glucose levels. In addition, regular blood glucose measurements, laboratory tests and the correct use of insulin therapy under the supervision of a doctor allow for effective management of diabetes during pregnancy. Modern insulins, glucometers, and sensor monitoring systems (CGM) currently used make the process of controlling diabetes much more convenient and safe. Also, establishing special diabetic schools for pregnant women, providing them with recommendations on proper nutrition, taking medications, stress management, and a healthy lifestyle, is an important preventive measure.



In order to prevent gestational diabetes, it is very important to strengthen the woman's health before pregnancy, maintain a normal body weight, early detection and treatment of endocrine system diseases, healthy nutrition and an active lifestyle. Especially at the stage of pregnancy planning, medical examination and consultation with an endocrinologist reduce future risks.

In cases of diabetes detected during pregnancy, the main goal of treatment is to ensure the healthy development of the mother and fetus. This process requires constant monitoring, monitoring of hormonal and metabolic indicators, and assessment of the dynamics of fetal growth. Also important is the correct choice of the time and method of delivery. In the postpartum period, the woman's blood sugar level is monitored and attention is paid to the restoration of metabolic processes. Because in women who have had gestational diabetes, the risk of developing type 2 diabetes in the future increases to 40–60%. Therefore, regular dispensary monitoring and preventive measures are necessary for them.

Scientific studies show that early detection and effective management of diabetes during pregnancy can reduce complications by 70–80 percent. This is one of the most important conditions for ensuring the practical conception of a healthy mother and a healthy child. Also, thanks to the development of information technologies, women are able to monitor their health through online monitoring systems and receive medical advice remotely, which is also yielding positive results.

In conclusion, diabetes in pregnancy is not only a medical problem, but also a matter of broad social importance. Its consequences affect the future health of the woman, the child and the entire family. Therefore, in such cases, close cooperation between medical professionals, pregnant women and their family members is necessary. Early detection of gestational diabetes, management based on modern medical technologies and an individual approach can prevent complications, maintain maternal and child health, and ensure the healthy development of the future generation.



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