

Prevention of Type 2 Diabetes in Pre-Existing Gestational Diabetes

Abstract

Morbidity and mortality associated with diabetes and other non-communicable diseases are increasing. The epidemic is spreading worldwide in both resource-poor and resource-rich countries. Prevention is an important aspect of the fight against disease, and obstetricians play a key role in the fight. For mothers with diabetes, their children, and future generations, prevention starts in the womb. The postpartum period should not be neglected as it offers an opportunity for prevention. Data on the prevention of type 2 diabetes in women with gestational diabetes are presented.

Keywords: Morbidity • Diabetes • Gestational

Introduction

Type 2 diabetes is a silent epidemic with increasing rates associated with risk factors such as aging, obesity, poor diet and lack of exercise. Along with cancer, cardiovascular disease and respiratory disease, it is one of the most important chronic non-communicable diseases. Diabetes-related deaths were 3.4 million in 2004, making it the seventh leading cause of death by 2030 [1]. This is true in both resource-rich and resource-poor countries, with more than 80% of diabetes-related deaths occurring in low- and middle-income countries. Urgent measures to contain this epidemic have been delayed. Bearing in mind that the prevalence of gestational diabetes can reach 15% to 25% in certain populations, there is a need to focus on detection and treatment of all forms of diabetes and prevention starting in the uterus. is also important. Women diagnosed with GDM are at increased risk of developing type 2 diabetes in the future. This risk was the first outcome measure used to define the threshold for hyperglycemia during pregnancy over 50 years ago. Her cumulative risk of type 2 diabetes after GDM ranges from 2.5% for her to 70% for her 28 years of follow-up from 6 weeks after delivery. Women with a history of GDM are a high-risk group and are candidates for interventions to reduce the prevalence of type 2 diabetes [2-5]. This, through changes in the intrauterine environment, may be an important factor not only for the long-term well-being of women and their offspring (both children and adults), but also for future generations. It discusses current data on these interventions and considers further research and policy implementation that could fund to reduce the incidence of postpartum type 2 diabetes [6].

Evidence Base for Interventions

Numerous studies have demonstrated the effectiveness of various interventions to prevent type 2 diabetes in high-risk populations. However, the focus of these studies was on high-risk patients identified by impaired fasting glucose or impaired glucose tolerance. There is limited, although generally positive, evidence for the efficacy of these interventions in other high-risk groups, including those with pre-existing GDM. Available data support her three main modalities of intervention. Breastfeeding [7], lifestyle changes, medications. Unlike other interventions, breastfeeding benefits both mother and child. Several studies have shown that breastfeeding is a risk modifier that may be beneficial in preventing her type 2 diabetes. The duration and intensity of breastfeeding are also important, with exclusive breastfeeding being more important than partial breastfeeding and the recommended duration being at least 3-9 months. Lifestyle changes may include diet and nutrition advice, weight loss, and physical activity. This can be done in person, over the phone, or over the internet with varying intensity and supervision by a doctor, nurse, or diabetes educator.

Alina S*

Department of Medicine, Iran

*Author for correspondence:
alin@gmail.com

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The largest type 2 diabetes prevention study was conducted by the Diabetes Prevention Program. In this study, 3234 patients at high risk of diabetes were randomized to a standard treatment group and two possible intervention groups (lifestyle modification and metformin) with a follow-up of approximately 3 years. Importantly, the first inclusion definition of diabetes risk was based on her IFG and IGT. The results of this study showed that lifestyle changes were significantly more effective in preventing type 2 diabetes compared to metformin, with a 58% and 31% reduction in risk, respectively. It has also been shown in other randomized trials. A supplemental analysis of the DPP study focused on the subgroup of women with previous her GDM as a risk-determining parameter, along with the initial risk of IFG/IGT. A total of 350 women with a history of GDM were included and compared with 416 women with a history of birth without GDM. The results of this study showed that a woman with a history of her GDM assigned to the control group had an approximately 70% risk of developing her type 2 diabetes [8,9]. Also, in people with a history of GDM, both lifestyle modification and metformin achieved a risk reduction of approximately 50% compared to controls. In another study, 237 women with a history of GDM were randomly divided into two groups. A Mediterranean diet as a lifestyle intervention involving monitored physical activity compared to a conventional follow-up group. The study showed that the risk in the lifestyle intervention group was reduced by approximately 25%. Although this risk reduction is not consistent across studies, lifestyle changes have been shown to be cost-effective and save money.

Pharmaceutical Therapy

As previously mentioned, the DPP study showed the efficacy of metformin in reducing the progression of type 2 diabetes in women with a history of GDM. To date, it is the largest study demonstrating a pharmacological intervention that effectively reduces diabetes risk in women with a history of GDM. Other drugs have also been tested in small studies, including troglitazone, pioglitazone, and acarbose. Buchanan evaluated the effects of troglitazone and placebo in her 266 Hispanic women with a history of GDM. The study concluded that this treatment significantly reduced the incidence of postnatal type 2

diabetes by approximately 45%. However, troglitazone was discontinued due to hepatotoxicity. In a follow-up observational study in the same population, pioglitazone was administered to 89 women for 3 years. Likewise, it has also been shown to be effective in reducing the rate of progression to type 2 diabetes via insulin-sensitizing effects and maintaining beta-cell function [10]. It is also being studied for diabetes prevention. However, the study population had not been selected for his previous GDM as a risk factor, and instead IGT was the selected inclusion criterion. In this study, 1429 patients were randomly assigned to placebo or acarbose. Results showed a 25% reduction in her risk of progression to type 2 diabetes in the acarbose group.

Conclusion

Type 2 diabetes can be reduced in high-risk populations, including women previously diagnosed with GDM. Future studies should focus on this specific population of women with or without IFG or IGT and other concomitant risk factors such as obesity and family history. Appropriate precautions should be encouraged. A comprehensive approach to diabetes prevention should include lifestyle interventions, breastfeeding support, and provision of appropriate pharmacologic treatments. It is most important to continue care and aftercare for the future health of pregnant women and their children, rather than neglecting pregnant women with diabetes after giving birth.

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