Gestational Diabetes Mellitus

Subjects: Obstetrics & Gynaecology

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The American Diabetes Association (ADA) defines gestational diabetes mellitus (GDM) as diabetes diagnosed in the second or third trimester of pregnancy that was not clearly overt diabetes prior to gestation[5].

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1. Introducción

GDM can reach up to 14% of the population worldwide[1]. Insulin may or may not be necessary in this case, regardless of the degree of metabolic disorder. In addition, this pathology can persist once the pregnancy has ended[2].

2. Management

Pregnancy causes major biochemical changes that cause a decrease in insulin sensitivity, o set by an increase in insulin production. Good control of a woman with GDM through diet and exercise can avoid the use of insulin, requiring only 20–30% insulin[3]. According to this statement, the consensus of the Spanish Group on Diabetes and Pregnancy defines that GDM should be treated with dietary measures and physical exercise first. However, this does not mean that pharmacological treatment, such as insulin, is not necessary when adequate metabolic control is not achieved with the above indications[4][5]. Nurses and midwives, among other professionals, are in charge of monitoring a pregnancy and carrying out the diagnostic tests for GDM—indications for physical activity—and are in the closest contact with pregnant women[6].

It is important to treat this complication of pregnancy because patients with GDM are at an increased risk of developing type II diabetes after pregnancy[2]. There is also the possibility that the child will suffer complications as macrosomia, impaired intrauterine growth, obstetric trauma, hyperbilirubinemia, hypoglycemia, intection, and a length of stay in the intensive care unit[7]. A combination of diet and exercise reduces excessive weight gain during pregnancy and GDM because weight gain is directly related to GDM development[8][9]. In addition, obese women tend to have an unbalanced glucose tolerance and higher insulin resistance during pregnancy than those with a healthy weight[2]. Thus, pregnant women who are overweight or obese have between 2.14 and 3.56 times
more risk of GDM than those with a healthy weight.

There has always been a controversy about exercising during pregnancy[10]. For this reason, around 80% of pregnant women are physically inactive, increasing this inactivity during the last trimester of pregnancy[11]. However, today it is known that there are many benefits that exercise offers to both the fetus and the mother. Among the maternal benefits are a general decrease in cramps, lower back pain, oedema, depression, urinary incontinence, the duration of labour, and constipation as well as the number of caesarean sections of the mother[12]. Physical activity has benefits for the fetus: decreased fat mass, improved stress tolerance, and advanced neurobehavioral maturation, among others[13]. In addition, physical activity reduces the rate of GDM to those who perform it between three to twelve months regularly before or during the gestation period[14].

Physical exercise can be carried out safely by pregnant women preventing excessive weight gain, macrosomia, high blood pressure, GDM, respiratory distress syndrome, neonatal hypoglycemia, and hypocalcemia[15][16][17][18]. The benefits of physical activity requires physical activity for 30 min at a moderate intensity for five days, or 150 min of aerobic activity every week on average, depending on the women's physical activity level or fitness status before pregnancy[19]. It should not be noted that both the intensity and the type of activity depend on each person and should always be recommended individually[20].

Aerobic, resistance exercise, or a combination of both are effective in controlling glucose, HbcA1, and insulin. Due to the variability of the exercises of the analyzed studies and the variability of the shape of the different pregnant women, it does not allow recommending a particular type of exercise. However, any type of physical activity of suffcient intensity and

duration can have benefits for pregnant women with DMG.

Pregnant women with GDM should exercise at least 20–50 min a minimum of two times a week. The intensity of the activity should be at least moderate.

While exercise provides the greatest benefit according to the analyzed studies, diet is also important to control glucose values, HbcA1, and the required amount of insulin.

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