

Risk Factors That Increase Insulin Need in Patients with Gestational Diabetes Mellitus

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Objective: Our aim was to determine the risk factors associated with in need for insulin therapy in patients with gestational diabetes mellitus(GDM).

Material and Method: We enrolled 212 pregnant women who were diagnosed GDM by 75 gram oral glucose tolerance test(OGTT) at 24-28 week gestational weeks. The demographic features, insulin, and HbA1c levels were evaluated. 35,3 % of the patients needed insuline therapy during pregnancy. We compared patients with GDM who needed insulin therapy during pregnancy (insulin group) and women treated with diet alone (diet group)

Results: The patient treated with insulin were older than the patients diet group($32,0\pm 0,4$ vs $37,8\pm 0,5$; $p=0,004$). Prenatal body mass index(BMI) was significantly higher in the insulin group compared to the diet group. ($29\pm 0,8$ vs $33,1\pm 0,6$ kg/m^2 ; $p=0,004$) while the mean fasting plasma glucose (FPG) levels was $101,6\pm 2,5$ mg/dl in insulin group, it was $92,9\pm 1,0$ mg/dl ($p<0,001$). While there was not a difference in OGTT 1 hour - plasma glucose levels between the two groups ($p=0,065$), 2 hour-plasma glucose levels were $160\pm 6,5$ mg/dl in the insulin group and $143,3\pm 4,1$ mg/dl in the diet group ($p=0,027$). HbA1c level was significantly higher in the insulin group compared to the diet group. ($5\pm 0,2$ vs $5,3\pm 0,2$; $p=0,001$) There was not a difference in fasting insulin levels and HOMA-IR between two groups. ($p=0,889$, $P=0,074$)

Conclusion: Age, family history of diabetes, prenatal BMI; FPG, and HbA1c were found to be risk factors associated with insulin need in patients with GDM.

Key words: Gestational Diabetes Mellitus, HbA1c, fasting plasma glucose, insulin, diet

Table 1: Comparison of laboratory values insulin group and diet group

Parameter	İnsulin group n=75	Diet group n=137	p
FPG (mg/dL)	$101,6\pm 2,5$	$92,9\pm 1,0$	0,001
OGTT 1 hour- Plasma Glucose (mg/dL)	$197\pm 6,2$	$186,2\pm 3,1$	0,69
OGTT 2 hour- Plasma Glucose (mg/dL)	$160\pm 6,5$	$143,3\pm 4,1$	0,027
Fasting Insulin (IU/mL)	$9,9\pm 0,7$	$9,7\pm 1$	0,906
HOMA-IR	$2,4\pm 1$	$1,9\pm 1,1$	0,074
HbA1c(%)	$5\pm 0,2$	$5,3\pm 0,2$	0,889