GLYCAEMIC VARIABILITY IN PREGNANT WOMEN WITH GESTATIONAL DIABETES

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INTRODUCTION

The accurate and comprehensive assessment of glycemic control in pregnant women with gestational diabetes (GDM) is important for preventing fetal complications. We aimed to determine glycemic variation on women with GDM using a continuous glucose monitoring system (CGMS) and to investigate the relationship between reflecting glucose markers such as Glycated hemoglobin (A1C), Fructosamine (FRM) and 1,5-Anhydroglucitol (1,5-AG).

MATERIAL AND METHOD

31 women with GDM on diet therapy only (mean age 31.9±6.9 yrs, gestational week≥35) were recruited from outpatient clinic. Those patients were screened by self monitoring blood glucose(SMBG) and monitored for three consecutive days to obtain mean daily glucose data; glycemic fluctuations were evaluated using postprandial incremental Area Under Curve(AUC) and percent of Mean Absolute Difference(MAD%). Venous blood samples were collected to measure A1C, FRM and 1,5-AG.

RESULTS

Prepregnancy BMI of participants was 26.2±5.9 kg/m², weight gain during pregnancy was obtained as 12.2±3.5 kg/levels of reflecting glucose markers were measured as following: A1C % 5.0±0.3, FRM 2.1±0.2 μmol/L,1,5-AG 17.0±4.9 μg/mL; according the results of CGM, MAD % was found as %6.7±3.1; the total number of fluctuations in glucose levels were counted as 58±3.6. Glucose figures measured by SMBG or CGMS were found similar (82.9±10.2 and 86.1±10.3 mg/dL); statistically, there wasn’t any correlation between determinants of CGM and other glucose reflection parameters. It was realized that birth of weight and size of head circumference of babies were affected by maternal glucose levels.

CONCLUSION

Although it seems that normoglycaemia is sustained, there should be glucose variability in diabetic patients especially during pregnancy and all known glucose reflecting parameters do not show fluctuations. CGMS is an alternative method for detecting glucose variations in spite of having difficulties to afford and apply the tool. We concluded that higher glucose fluctuations were observed on pregnancies with GDM who have high triglyceride at fasting and high glucose levels at 3rd hour of OGTT at the beginning.