The glycaemic levels from 75-g oral glucose tolerant test as predictors for macrosomia in newborns of women with gestational diabetes mellitus

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Objective: impact of glucose values from 75-g oral glucose tolerance test (OGTT) on large for gestational age (LGA) newborns from gestational diabetes mellitus (GDM) singleton

Material and methods: 118 were prospectively screened for GDM between 24 and 28 weeks of pregnancy with 75-g OGTT in Outpatient Department of Clinics for Endocrinology, Diabetes and Metabolic Disorders. Age, body mass index (BMI) before pregnancy and before delivery, glycosylated haemoglobin (HbA1c), 2-hour 75-g OGTT, neonatal birth weight, delivery mode, and gestational week of delivery at University Clinic for Ob/Gyn-Skopje were determined in all women.

Results: The study included 118 pregnant women: 78 (66.1%) with GDM, and 40 (33.9%) without GDM. Twenty-one (30.4%) of the neonates in the GDM group were LGA (adjusted weight at or above the 90th percentile). This proportion significantly differed from the proportion (5.5%) of the control group (p<0.01). There were significant correlations between LGA from GDM pregnancies with BMI before pregnancy, BMI before delivery, fasting, and 1-hour OGTT plasma glucose levels (r = 0.36, 0.36, 0.46 and 0.23 respectively, p < 0.05 glucose levels.

Gestation week of delivery and fasting glucose levels were independent predictors for LGA (Beta=0.58 and Beta=0.37 respectively, p<0.001). Areas under the receiver operator characteristic curve (AUC) were compared for the prediction of LGA. The AUC were: 0.782 (0.685-0.861) for fasting, 0.719 (0.607-0.815) for 1-hour and 0.51 (0.392-0.626) for 2-hour OGTT plasma glucose levels.

Bibliography
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