Gynecology and Reproductive Endocrinology

The role of umbilical cord thickness, interventricular septum thickness and HbA1c levels in the prediction of fetal macrosomia in patients with gestational diabetes mellitus

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Abstract

To evaluate the role of measuring umbilical cord thickness, interventricular septum thickness and HbA1c level in prediction of fetal macrosomia in patients with gestational diabetes mellitus. Methods: This prospective case-control study included 80 pregnant women. They were divided into two groups: 40 pregnant women as case group with gestational diabetes mellitus and 40 non-diabetic pregnant women as control group. Ultrasound examination was performed where the sonographic cross sectional area of umbilical cord. The umbilical arteries and the umbilical vein were measured in a free loop of the umbilical cord, using the software of the ultrasound machine. The cross-sectional area of Wharton's jelly was computed by subtracting the cross sectional area of the vessels from that of the umbilical cord and the interventricular septum thickness was measured. HbA1c level was measured for diabetic patients.

Results: Umbilical cord diameter increased in patients with gestational diabetes more than the control group (3.03±1.26) cm. Increase in interventricular septal thickness (0.85±51) cm was also associated with fetal macrosomia in diabetic patients. HbA1c levels in patients with GDM (7.0±1.2) % showed increased cases of fetal macrosomia.

Conclusion: The results of the study showed the usefulness of sonographic umbilical cord thickness, interventricular septum thickness and HbA1c in prediction of fetal macrosomia in Patients with gestational diabetes mellitus.

Biography

Rehab M Abdelrahman is Associate Professor of Chemical Nuclear Engineering at the Radioactive Hot Laboratories and Waste Management Center, Atomic Energy Authority of Egypt.

Publication

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