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Original Article

Amniotic fluid, maternal, and neonatal serum C-peptide as predictors of macrosomia: A pilot study

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Abstract:

Background: Fetal macrosomia is associated with increased maternal and fetal complications. Various factors may predispose a fetus to macrosomia. The aim of the present study was to evaluate the association between serum and amniotic fluid (AF) insulin, C-peptide, and glucose and macrosomia.

Methods: Thirty-eight neonates were enrolled in this case-control study. Ten macrosomic neonates were considered as the case group, and 28 normal weight neonates were designated as the control group. AF C-peptide, insulin, and glucose were measured in both groups; also maternal and neonatal serum C-peptide, insulin, and glucose were simultaneously measured during delivery.

Results: There was a significant correlation between neonatal (P=0.01) and maternal (P=0.006) serum C-peptide levels and macrosomia. The serum glucose levels of the mothers in the macrosomic group were also significantly higher than those of the control group. The AF insulin and C-peptide levels in the macrosomic group were higher than those of the control group; however, the difference was not significant. There was no significant correlation between macrosomia and the other factors such as placental weight, gender, neonatal Apgar score, and gestational age.

Conclusion: The results demonstrated that AF C-peptide and also maternal and neonatal serum C-peptide were factors that could influence fetal weight and predict macrosomia.

Keywords:

Macrosomia ، Amniotic fluid ، Insulin ، C-peptide

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