عنوان مقاله:

Prediction of Gestational Diabetes Mellitus in Wom-en Conceived by Assisted Reproductive Technology: Body Mass Index and Fasting Glucose Cut Points

محل انتشار:

بیستمین کنگره بین‌المللی بیولوژی تولید مثل و پانزدهمین کنگره بین‌المللی سلول های بنیادی (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

A Kouhkan - *Reproductive Epidemiology Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran*

R Hosseini - *Reproductive Epidemiology Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran. Department of Regenerative Biomedicine, Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran.*

HR Baradaran - *Department of Andrology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran*

ME Khamseh - *Department of Andrology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran*

خلاصه مقاله:

Background: Despite several studies in general population, there is no direct evidence regarding the cut-off levels of pre-pregnancy body mass index (BMI) and first trimester fasting glucose (FG) to predict the risk of developing GDM in infer-tile women as a high risk population. Accordingly, the present study was designed to evaluate the predictive value of BMI and FG to predict GDM risk, and then to determine the cut-points of BMI, FBS and the combination of two biomarkers (BMI+ FG) for diagnosis of at risk pregnant women conceived by ART to target clinical surveillance in a more effective manner.Materials and Methods: In this case-control study, 270 sin-gleton pregnant women consisted of 135 (GDM) and 135 (non-GDM) who conceived using ART were assessed. The diagnosis of GDM was confirmed by a one-step glucose tolerance test (O-GTT) using 75 g oral glucose. BMI was classified base on World Health Organization (WHO) criteria. The association be-tween BMI, FG, and BMI+FG with the risk of GDM develop-ment was determined by logistic regression and adjusted for confounding factors. Receiver operating characteristic (ROC) curve analysis was performed to evaluate the value of BMI, FG, and BMI+FG for the prediction of GDM.Results: There were significant differences between GDM and non-GDM groups in terms of maternal age, BMI, fam - ily history of diabetes, and history of polycystic ovary syndrome (P<0.05). The overweight and obese women had 3.27, and 5.14 folds increase in the odds of developing GDM, respectively. There was a 17% increase in the risk of developing GDM with each 1 mg/dl increase in FG level. The cut points 84.5 mg/dl for FG (with 72.9% sensitivity, 74.4% specificity), 25.4 kg/m2 for BMI (with 68.9% sen-sitivity, 62.8% specificity), and 111.2 for BMI+FG (with 70.7% sensitivity, 80.6% specificity) was detected.Conclusion: On the basis of present results, since the com - bination of BMI and FG is associated with a better predic - tion value; the early screening and high -quality prenatal care should be recommended in women undergone ART with the co-occurrence of the pre-pregnancy BMI (≥25.4 kg/m2) and high FG (≥84.5 mg/dl) in the first-trimester of the pregnancy.

کلمات کلیدی:
Gestational Diabetes Mellitus, Assisted Reproduc-tive Technology, Fasting Blood Glucose, Body Mass Index