Effect of maternal age, parity and pre-pregnancy body mass index on glucose challenge test and gestational diabetes mellitus

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Objective: The objective of this work is to study the effect of age, parity and body mass index (BMI) on the incidences of positive 50 g glucose challenge test (OGCT) and gestational diabetes mellitus (GDM) in healthy pregnant Omani women.

Method: In this prospective study, a 50 g OGCT was performed to 307 health pregnant Omani women at 24-28 weeks of gestation. When venous plasma glucose concentration (VPG) after 1 hour was >7.8 mmol/l, OGCT was considered positive. Women with a positive OGCT had a confirmatory diagnosis of GDM made by performing 2-h 75 g oral glucose tolerance test (OGTT). When either fasting or 2-h post 75 g OGTT values were >5.5 mmol/l and >8 mmol/l respectively, women were considered diabetic.

Results: We screened 307 women, total number of women with positive OGCT was 83 (27.03%) and GDM 23 (7.5%). The incidences of positive OGCT and GDM increased significantly with increasing maternal age, from 20.0% and 2.2%, respectively in women aged <25 years to 37.8% and 14.7%, respectively in women aged >35 years, (P=0.02 and P=0.009, respectively). The incidences of positive OGCT and GDM increased markedly with increasing pre-pregnancy BMI, from 19.8% and 3.8%, respectively in women with BMI <25 kg/m² to 37.8% and 9.9%, respectively in women with BMI >25 kg/m², (P=0.02 and P=0.04, respectively). There is steady increase in the incidences of positive OGCT and GDM with increasing parity.

Conclusions: Maternal age and pre-pregnancy BMI have a profound impact on the incidences of positive of OGCT and GDM.

Biography

Adel T Abu-Heija has joined Benghazi Medical School as a Medical student in 1974. He has obtained his MBBS degree in 1980 and MRCOG diploma in 1987, worked in the United Kingdom for 3 years. He has returned to Jordan and worked as Assistant Professor at Jordan University of Science and technology. He was promoted to Associate and Full Professor. Between the years 2000-2005, he has worked as a Professor of Obstetrics and Gynecology at King Faisal University, Saudi Arabia. He has served as a Dean of Mutah University Medical College in Jordan between 2007-2011. He has been working in Oman as a Professor and the Head of department of Obstetrics and Gynecology at Sultan Qaboos University and Hospital between 15th September 2013 and 17th September 2016. He has published more than 60 articles in various topics of Obstetrics and gynecology.

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