



Article

## Determinants of pregnancy outcome in patients with gestational diabetes

H. Nasrat<sup>a</sup>, W. Fageeh<sup>a</sup>, B. Abalkhail<sup>b</sup>, T. Yamani<sup>a</sup>, M.S.M. Ardawi<sup>c</sup>

<sup>a</sup>Department of Obstetrics and Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia

<sup>b</sup>Department of Community Medicine, King Abdulaziz University Hospital, Jeddah, Saudi Arabia

<sup>c</sup>Department of Clinical Biochemistry, King Abdulaziz University Hospital, Jeddah, Saudi Arabia

Received 21 August 1995; revision received 15 November 1995; accepted 22 November 1995

### Abstract

**Objectives:** To describe the experience of management of gestational diabetes 'GDM' among a high-risk population and to determine the relative contribution of maternal risk factors and some indices of glucose intolerance on pregnancy outcome. **Methods:** A total of 173 antenatal patients with GDM, matched to 337 non-diabetic controls were evaluated. Incidences of fetal macrosomia, large birth weight (> 4000 g), and operative delivery were noted. Patients with GDM were subgrouped into group I and II, according to the fasting blood glucose (FBG) level on the glucose tolerance test 'GTT', whether  $\geq$  or < 5.8 mmol/l, respectively. A logistic regression model was then developed with predictive variables, i.e. maternal weight, height, parity, gestational week at diagnosis of GDM, degree of glucose tolerance, treatment and means of fasting and post-prandial blood glucose measurements as independent variables against each of the outcome measures as dependent variables. **Results:** Compared with non-diabetics, patients with GDM were older in age, weight and parity. The mean fetal birth weight, incidences of macrosomia and babies > 4 kg were significantly higher among GDM patients. In patients with GDM the degree of glucose intolerance (determined by FBG on the GTT) and maternal weight were the only variables that significantly increased the risk of macrosomia and operative delivery. Within group I patients (FBG  $\geq$  5.8 mg/dl) only 'maternal weight' significantly increased the risk of both having a baby > 4 kg, and operative delivery. **Conclusion:** Among patients with gestational diabetes, a GTT with a FBG level  $\geq$  5.8 mmol/l is a strong predictor for perinatal outcome. Maternal weight is an independent risk factor that increases the risk of both macrosomia and operative delivery.

**Keywords:** Gestational diabetes; Macrosomia; Fetal morbidity

### 1. Introduction

One of the objectives of diagnosing and treating gestational diabetes mellitus (GDM) has traditionally been to reduce the incidence of large-for-

gestational-age 'LGA' infants, which in turn would reduce maternal and neonatal morbidity [1]. However, in most recent reports, the perinatal mortality among infants of mothers with GDM has been successfully reduced to a rate that is not markedly different than that of the general non-diabetic population [2,3]. This may not only be at-

\* Corresponding author, Fax: +966 2 6693813.