

Retrospective Study of Macrosomia and Glucose Tolerance Test characteristics in a Non-Gestational Diabetes Pregnancy group in Queensland

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Aim: The first aim of this study was to look into relative incidences of known risk factors causing macrosomia, and perinatal complications. The second aim of this study was to determine the utility of current practise for diagnosing Gestational Diabetes Mellitus (GDM) in a heterogeneous population group, in Australia.

Background: Maternal hyperglycaemia has been implicated as the major cause of neonatal macrosomia, yet clinicians frequently report the birth of large-for-gestational age (LGA) infants in normoglycaemic pregnancies (1). Although maternal diabetes accounts for only a small proportion of LGA infants, the incidence of maternal diabetes increases as the neonatal birth weight above 4000 grams increases (2). A retrospective analysis of 92 LGA births at our centre was performed, to determine relative incidences of GDM and other known aetiologies, followed by their perinatal complications.

Methods: This study was an observational, retrospective, single group study. Statistical analysis was performed for the various aetiologies known to be associated with foetal macrosomia. Abnormalities in maternal 50 gram Glucose challenge test (GCT) and 75 gram oral glucose tolerance test (OGTT) results in our subjects were tabulated and their degree of association with the overall macrosomia assessed.

Results: Male sex and history of previous macrosomia were significant as aetiologies for macrosomia; as did adverse events following a macrosomic birth, such as neonatal hypoglycaemias, neonatal respiratory distress and post partum haemorrhage. Five subjects were diagnosed with Gestational Diabetes mellitus in the study group, by means of an abnormal 75 gram OGTT. The diagnostic accuracy between the ADIPS and suggested IADPSG (3) diagnostic criteria in helping predict macrosomia, requires evaluation in further studies. Although more cases of GDM may get recognised, this would help initiating treatment measures early, thereby reducing costs involved with perinatal complications and morbidity. Maternal demographic features and perinatal complications with regards to non-GDM LGA infants data will be presented.