

Diabetes In Pregnancy: A Retrospective Audit On The Efficacy Of Managing Gestational Diabetes Mellitus (GDM) Post Implementation Of The Diabetes Antenatal Care And Education (DANCE) Clinic In Lyell McEwin Hospital, A Tertiary Care Hospital In Northern Adelaide

Wuen Lynn Toh¹, Abner JY Quek¹, Peak Mann Mah², Anjana Radhakutty², Simon Kane^{1,3}, Gus Dekker^{1,3}.

1. Department of Obstetrics & Gynaecology, University of Adelaide, South Australia, Australia

2. Department of Endocrinology, Lyell McEwin Hospital, South Australia, Australia

3. Department of Obstetrics & Gynaecology, Lyell McEwin Hospital, South Australia, Australia

Introduction

Gestational diabetes mellitus (GDM) is a condition in which a woman develops glucose intolerance with onset or first recognition during pregnancy. GDM generally results in few symptoms, but significantly increase the risk of maternal and foetal complications¹. GDM affects approximately 8-10% of pregnancy in Australia² and has an increasing incidence.

The Lyell McEwin hospital (LMH) is a 468-bed tertiary care hospital that caters to a population that provides a full range of medical services to a population of about 400,000 people living in the northern suburbs of Adelaide, one of the most socio-economically disadvantaged urban areas of Australia. The DANCE (Diabetes Antenatal Care & Education) clinic is a multidisciplinary clinic formed between the Diabetes and Endocrine department and the Obstetrics department in the LMH. It is an interdisciplinary one stop service including obstetricians, endocrinologists, dieticians and diabetes educators in 2012 to provide integrated care for patients with GDM.

Aim

The aim of this audit is to evaluate outcome of GDM management after the implementation of the DANCE clinic in a busy tertiary care hospital.

Methodology

We enrolled a total of 370 patients for this study.

A retrospective audit was performed on all the pregnant women who were diagnosed with GDM over a 12-month period (Jan-Dec inclusive) in 2005 and 2015 in the LMH. We included patients diagnosed with GDM and who received pharmacological treatment (Insulin and/or Metformin). GDM patients on diet control were not included in our study. Patient's demographics, treatment types, medication doses and foetal outcomes were obtained from medical records.

Maternal parameters noted included the presence of post-partum haemorrhage, pregnancy induced hypertension and the rates of intact perineum.

Foetal parameters noted included macrosomia (>90%), neonates requiring special care nursery (SCN), neonatal hypoglycaemia, jaundice, infection, respiratory distress and foetal death.

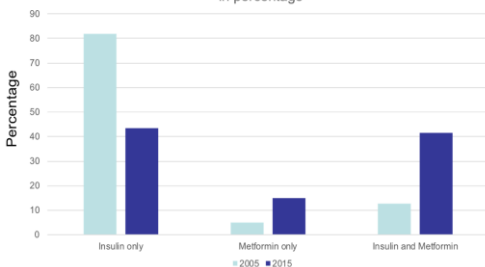
Fisher's exact test was used to calculate the significance in results between the 2 groups.

Results

Table 1: Comparison of patients with GDM requiring medication in 2005 and 2015.

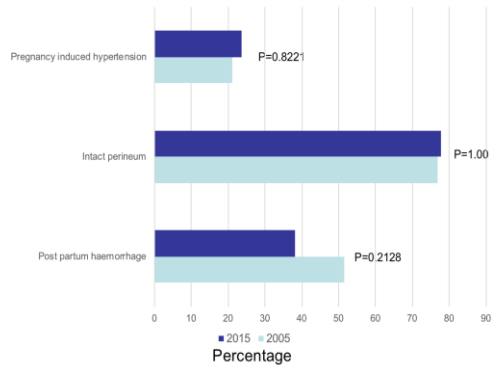
	Total	Required medication	Number of babies
2005	163	39 (23.9%)	41
2015	207	95 (45.9%)	96

Figure 1: Types of treatment received by patients with GDM in percentage



There has not been any significant difference in the rates of maternal outcomes (Post-partum haemorrhage, pregnancy induced hypertension, pre-eclampsia and the rates of intact perineum) between the 2 years, as shown in Figure 2 below.

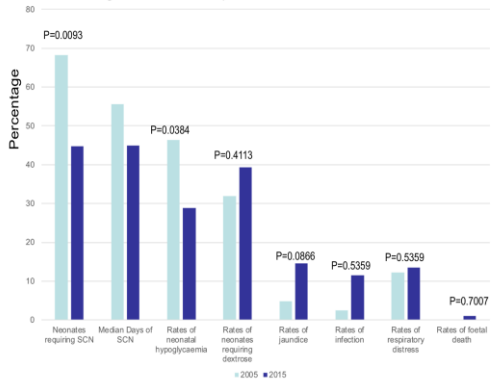
Figure 2: Maternal outcomes



There was a statistically significant reduction in babies requiring special care nursery (SCN) and the rates of neonatal hypoglycaemia in 2015 versus 2005.

There was however, no significant difference in the number of neonates with hypoglycaemia requiring dextrose infusion, rates of jaundice, infection, respiratory distress and foetal death, as shown in Figure 3 below.

Figure 3: Neonatal complication rates between 2005 vs 2015



Conclusion

The implementation of an integrated approach to the care of women with GDM such as the DANCE clinic has demonstrated a positive outcome, notably in the neonatal aspects. However, more emphasis can be placed on the other neonatal complications identified in this study in the future, in particular jaundice.

References

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2. Moses RG, Morris G, Potocz P, SanGil F, Garg D. Impact of the potential new diagnostic criteria on the prevalence of gestational diabetes mellitus in Australia. Med J Aust 2011;194:338-40. Search PubMed