Screening, diagnosis and management of gestational diabetes in New Zealand:A clinical practice guideline 2014

https://www.health.govt.nz/publication/screening-diagnosis-and-management-gestational-diabetes-new-zealand-clinical-practice-guideline

The Ministry of Health released this Guideline in 2014 but reports from women suggest that many providers are not following the recommendations for best practice described in this report.

What follows is MSCC's summary of these Guidelines to assist women who have been diagnosed with Diabetes or Gestational Diabetes during their pregnancy, to make informed choices about their care.

Recommendations

HbA1c screening

All pregnant women are offered screening for diabetes using glycated haemoglobin (HbA1c), as part of 'booking' antenatal blood tests (ideally before 20 weeks). HbA1c (glycated haemoglobin) indicates the average blood glucose levels over the previous six to eight weeks and is considered to be a reliable method of detecting undiagnosed diabetes.

Results:

- An HbA1c result of ≥50 mmol/mol suggests that the woman may have undiagnosed diabetes. These women should be offered referral to secondary services that specialise in diabetes in pregnancy.
- HbA1c of 41 to 49 mmol/mol indicates a risk for both diabetes and gestational diabetes. These women should be offered dietary and lifestyle advice to help keep their blood sugar levels within the normal range. At 24 to 28 weeks gestation these women should be offered a 75 g, two-hour oral glucose tolerance test (OGTT)
- An HbA1c ≤ 40mmol/mol suggests no increased risk for DM but the current recommendations are that these women be offered 50g, 1 hour oral glucose challenge test (polycose test), to check for GDM at 24 – 28 weeks gestation.

Polycose Screening

It is recommended that all women who have not already been diagnosed with DM or GDM be offered screening for gestational diabetes using the one-hour, 50g, oral glucose challenge test (polycose test) to check for GDM, at 24 – 28 weeks gestation.

Results

- Women whose glucose levels are ≥ 11.1 mmol/L should be offered referral to a specialist diabetes in pregnancy service/team, without further testing.
- If the glucose levels are ≥ 7.8 to 11.0 mmol/L, the LMC should recommend referral for OGTT.
- If levels are ≤ 7.8 mmol/L no further testing for GDM is needed.

Oral Glucose Tolerance Test (OGTT)
Women with confirmed risk for GDM, either following an HbA1C or a polycose screening test, should be offered a 75g, two-hour, post fasting OGTT.
Results
If the fasting glucose result is ≥ 5.5 mmol/L or the two-hour value is ≥ 9.0 mmol/L, women should be offered referral to secondary services that specialise in diabetes in pregnancy.

Confirmed Diabetes in Pregnancy

Women should be offered access to multi-disciplinary diabetes service (including virtual clinics) with an obstetrician, a physician and a dietician. Weight and lifestyle advice is ideally provided by a dietician or suitably qualified person. These women will be taught to test their blood sugar levels.
Glucose targets are:

- a ≤5.0 mmol/L fasting level;
- ≤ 7.4 mmol/L at one hour after meals and;
- < 6.7 mmol/L two hour after meals

Ideally diet and lifestyle adjustments should enable women to record these results for more than 90% of readings during a week.
If glucose levels are higher than these for more than 10% of readings, metformin and/or insulin may be required. “Metformin appears to be as effective as insulin in treating women with gestational diabetes for maternal and infant outcomes.”(pg28)

Ultrasound Scans

The report states that, fetal growth assessment by serial ultrasound scanning of women with GDM has ***not*** been shown to either be reliable in terms of accuracy, or to improve outcomes for mothers or babies.

Birth

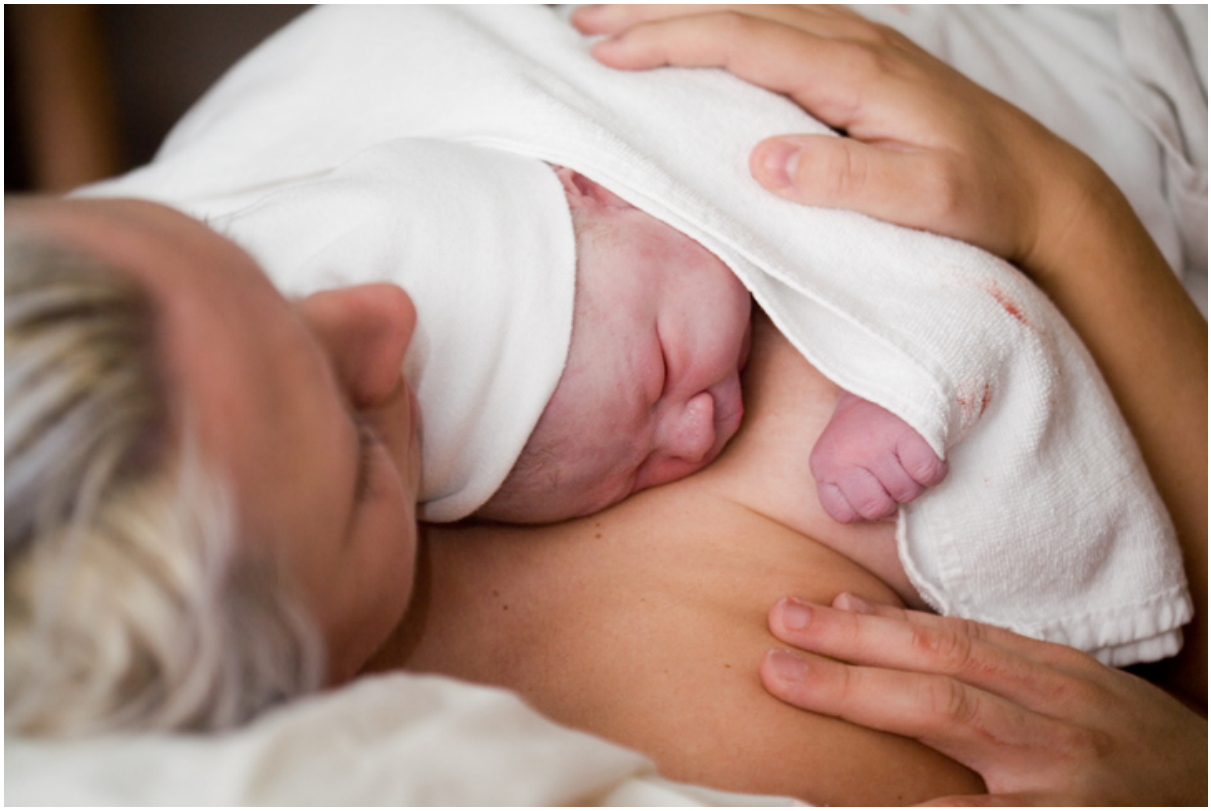
If an ultrasound scan at 36 to 37 weeks reports normal fetal growth (< 90th percentile (*presumably with reference to the personalised growth chart - ed*), and there are no other maternal or fetal risk factors, labour and birth at 40+ weeks is indicated. "*Vaginal birth is the preferred mode of birth. Elective delivery prior to 40 weeks' gestational age is not recommended in women who have no obstetric complications (e.g. hypertension, pre-eclampsia, large for gestational age infant ≥ 90th centile, maternal age > 40 years) and who have had good glucose control (> 90% of glucose readings within glucose treatment targets) throughout their pregnancy." (pg xiv)*

If fetal growth is > 90th percentile and the woman has other maternal and/or fetal risk factors, the recommendation is for an obstetric assessment to decide whether or not induction of labour at 38 to 39 weeks gestation is recommended.

Women should be advised to stop taking any diabetes medication during labour.

After birth

Women diagnosed with GDM should be encouraged (*and supported?* – MSCC) to have skin to skin contact and initiate breastfeeding (preferably within one hour) after giving birth and to continue feeding their babies every 2 – 3 hours during the first 48 hours after birth.



Women who had a diagnosis of gestational diabetes should have their medication discontinued but their blood glucose monitored postnatally. Testing (finger prick) should include blood tests pre-breakfast (i.e. fasting blood sugar) and two hours after meals for the first 24 hours post birth.

Neonatal Blood Glucose Monioring
It is recommended that babies' plasma glucose levels are measured at 2, 4 8 and 12 hours of age, or until there have been three consecutive readings of >2.6mmol/L.
Note: "An appropriately sensitive method, such as the glucose oxidase method, should be used to test for neonatal hypoglycaemia. Accucheck is not sensitive enough and should not be used to measure neonatal blood glucose." (pg.38)
For neonatal hypoglycaemia, a small supplemental feed, preferably of breast milk is recommended. "Encourage women who are unable to breastfeed, or do not wish to breastfeed, to use ***donor breast milk*** (see text box below) before formula milk."(Pg xxiv)

Results
Babies with recurrent blood sugar levels of < 2.3 mmol/L should be referred to a paediatrician before intravenous dextrose is offered.

Follow-up
Because women who have been diagnosed with GDM are at slightly increased risk of developing type 2 diabetes, it is recommended that they be offered an HbA1c screen at three months postpartum and annually thereafter (this can be organised by their GP. The oral glucose tolerance test at six weeks postpartum ***is no longer recommended***.

Informed Decision-making

This Guideline does include a chapter entitled, ***"Interviews with women with gestational diabetes".*** While it is pleasing to see that NZ women were interviewed, no information about the number of women or any other demographic information is provided. The authors also evaluated other literature that described women's experiences of GDM from testing, to diagnosis, to the treatment and information they received.

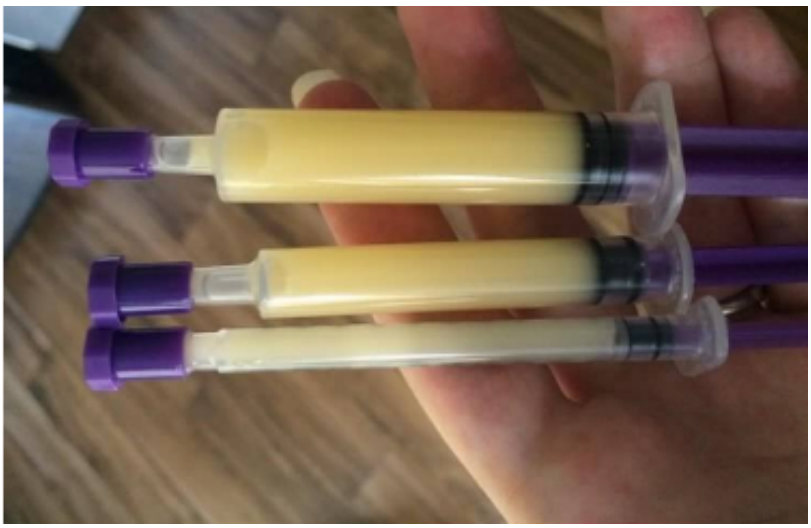
The report documents a summary of the key issues raised by the NZ women who were interviewed for this guideline and the women's experiences reported in the literature.
- "Women needed clear and meaningful information about what gestational diabetes meant for their health and for the health of their baby.
- They needed information on the clinical pathway and what they could expect at various stages of the journey up to the birth of their baby and beyond.

• Women needed clarity and good examples of what to eat and how much to eat.
• They found it difficult to adhere to lifestyle interventions.
• Clinic appointments were difficult at a number of different levels in terms of time and personal costs. Such difficulties were exacerbated for women living in rural areas.
• There were issues around the acceptability of screening test and pharmacological treatment.
• Women wanted access to more resources through a variety of media." (pg68)

Women who responded to our consumer survey also reported differing experiences with the services and recommendations(or dictates) they received subsequent to a diagnosis of GDM.

It is clear that women need more information to be active partners in their care. It seems that the DM or GDM is treated and managed differently in different DHBs and by different providers within DHBs. Women's individual circumstances and needs and their right to make fully informed choices about their care are often forgotten. Women continue to tell us that they are told that they are having (or frightened into agreeing to), a pre 40 week induction of labour regardless of whether or not they are managing their blood sugar levels. Women who were not able to keep their blood sugars stable report having no discussion about benefits and risks of the different options for medical management i.e. metformin vs injected insulin. When induction of labour is recommended (or directed/ordered) women are often not aware that there are different methods of inducing a labour or the benefits and risks each of the methods.

For further information about Induction of Labour individual women can request a copy of our printed resource "Induction of Labour – The Facts" https://www.maternity.org.nz/order-the-facts-series.html)



Expressed Colostrum

Antenatal Milk Expression (AME)

This Guideline goes on to say that at the time of writing (2014), Antenatal Milk Expression (AME), was not able to be supported by any research. There is still insufficient research available to definitively support or discourage women from expressing colostrum a couple of time daily from term onwards. The most recent, good quality research MSCC was able to find, comes from an Australian RCT published in 2017*. Women with pre-existing DM or GDM were randomized into the study and control groups. Women in the study group were advised to express colostrum (2 x daily) antenatally from 36 weeks' gestation. The outcomes showed that there was no statistical difference in the incidence of neonatal hypoglycaemia, the requirement for intravenous dextrose or the numbers of babies admitted to the neonatal unit, between babies of mothers in the AME group and the control group. However, babies who had access to expressed colostrum were given less formula milk (45.5% vs 58.7%) and more women in the AME group exclusively breastfed their babies up to 3 months of age (60% vs 55%).

While current research shows no harm in advising low risk women with diabetes in pregnancy to express breastmilk from 36 weeks' gestation, MSCC wonders if, in light of more recent research about fetal maturity and recommendations to delay induction of labour till after 38 completed weeks of pregnancy, a trial where AME starts at 37 weeks gestation might show a greater positive difference between the control and study groups.

MSCC is disappointed that 4 years after the publication of this report there appears to have been almost no progress at either MoH or DHB level with setting up Breastmilk Banks to or encouraging and supporting AME as a way of increasing the numbers of newborn babies who receive human milk.

* Forster DA, Moorehad AM, Jacobs SE et al. Advising women with diabetes in pregnancy to express breastmilk in late pregnancy. Diabetes and Antenatal Milk Expressing (DAME): a randomised controlled trial. The Lancet 389:10085(2204-13) DOI: 10.1016/S0140-6736(17)31373-9

MSCC welcomes feedback from women about their experience of Maternity Care. If you would like to share your experience of the care you received following a diagnosis of diabetes or gestational diabetes or if you have any further queries please email – mscc@maternity.org.nz