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TITLE: Management of Late Referrals at High Risk for Gestational Diabetes

Contents

1. Purpose

To provide Health NZ Lakes staff with information about the process for referring and managing pregnant women with suspected gestational diabetes late in pregnancy (≥ 36 weeks gestation).

In recognition of Te Tiriti o Waitangi (the Treaty of Waitangi) and the Crown's special relationship with Maori, Lakes DHB is committed to acknowledging the Treaty by working in partnership with Maori. Lakes DHB personnel who are involved in implementing this policy should be aware of Lakes' Te Tiriti o Waitangi Policy (EDMS 40583).

2. Scope

All Heath NZ Lakes medical, midwifery, nursing staff and LMC Access Agreement Holders providing care to pregnant women with diabetes in pregnancy.

The terms 'woman/women' in the context of this guideline are used as a biologically based term and are not intended to exclude those people who do not identify as women.

3. Background

Testing and Diagnosis

- The diagnosis of Gestational Diabetes is based on the results of an oral 75g glucose tolerance test carried out between 24 and 28 weeks of gestation.
- The New Zealand Guideline for Screening, Diagnosis And Management Of Gestational Diabetes uses thresholds of fasting glucose of ≥ 5.5mmol/l or 2 hour glucose of ≥ 9.0.
- The values used to diagnose gestational diabetes vary across different regions, and here are considerably less stringent than the thresholds used in the IADPSG guideline[1] (any one value ≥ fasting glucose 5.1 mmol/l, 1 hour glucose 10.0 mmol/l and 2 hour glucose 8.5 mmol/l.
- The HAPO study[2] showed a continuum rather than a threshold of glucose values on the OGTT at which adverse outcomes in pregnancies complicated by gestational diabetes increased, so the IADPSG chose these thresholds at which to recommend starting treatment, to reduce the incidence to what they considered an acceptable level.
- Insulin resistance rises as pregnancy progresses due to hormones such as human placental lactogen and others.
- It is not surprising that women tested later than 24-28 weeks with an OGTT will continue to test positive[3]. Indeed small studies have shown women that initially test negative on OGTT were found to test positive for gestational diabetes using the same diagnostic thresholds in the late third trimester (11%[4] and 23.5%[5] respectively) along with increased rates of respiratory distress and neonatal unit admission[5].
- However, it is generally agreed that the OGTT is not an appropriate test for gestational diabetes late in the third trimester, as it is unclear at what thresholds adverse outcomes rise. Many institutions (e.g. ADHB Diabetes in Pregnancy clinical guideline) use a pragmatic approach from 32 weeks gestation onward. They use pre and postprandial glucose testing and diagnosing gestational diabetes if 3 or more values are above the treatment targets for gestational diabetes (≥ 5.0 fasting, ≥ 6.7mmol/l 2 hours postprandial NZ targets).

Treatment

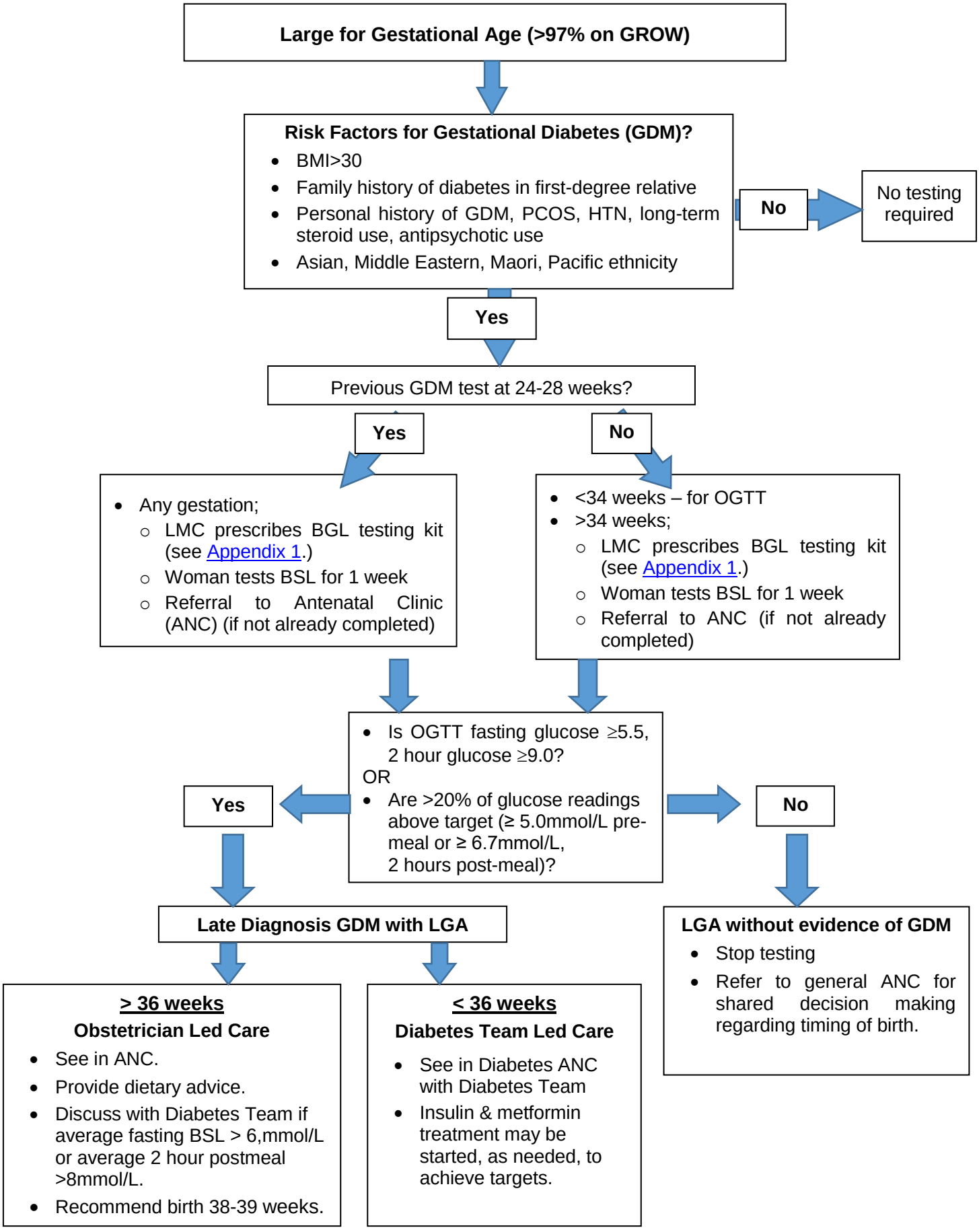
- This protocol is used in cases who present for antenatal care late, or where there is felt to be a high risk of gestational diabetes due to macrosomia or exponential growth on serial ultrasound studies.
- There is a lack of data to indicate up to what gestation treatment of diabetes to lower glucose values will lead to a reduction in adverse outcomes.
- Nonetheless it is reasonable to consider that treatment of both pre-gestational and gestational diabetes is likely to have a benefit in the third trimester, even if it is difficult to determine with current available evidence at what gestation treatment is no longer of benefit.

Effect on Neonate

- It is well established that neonatal hypoglycaemia is associated with diabetes in pregnancy and can lead to longstanding neurocognitive effects on the offspring[6].
- Continuous glucose monitoring in pregnant women with type 1 diabetes shows a higher incidence of hypoglycaemia in their neonates that correlated with less time that glucose was in the target range both in the 2nd and 3rd trimesters (measured at weeks 24 and 34), compared to those with better glycaemic control[7].
- Several studies have shown that the incidence of neonatal hypoglycaemia is not reduced with careful intrapartum glycaemic control[8].

4. Procedure

LGA Pathway



5. Associated Documents

- Maternity Multiagency Referral Prioritisation Form - 2179140

6. References

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7. J. M. Yamamoto, R. Corcoy, L. E. Donovan, Z. A. Stewart, G. Tomlinson, K. Beardsall, D. S. Feig, H. R. Murphy, on behalf of the CONCEPTT Collaborative Group Maternal glycaemic control and risk of neonatal hypoglycaemia in Type 1 diabetes pregnancy: a secondary analysis of the CONCEPTT trial Diabetic Med 20 May 2019
8. Severe neonatal hypoglycaemia and intrapartum glycaemic control in pregnancies complicated by type 1, type 2 and gestational diabetesJ. M. Yamamoto,1 ,2 ,3 L. E. Donovan,1 ,2 ,3 K. Mohammad,4 and S. L. Wood 2 Diabet Med. 2020 Jan; 37(1): 138–146

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7. Appendices

Appendix 1. Template Prescription for Blood Glucose Testing Kit

The template below shows how to prescribe both the glucose meter and the test strips.

Include a request to the pharmacy to provide the woman with a demonstration and education on how to use the equipment.

HOSPITAL PRESCRIPTION FORM

A4

PHARMACY STAMP

Prescriber's Name

NZMC Reg No.

Name:	Full Residential Address of Patient:
DOB: NHI:	*Alternatively attach patient sticker*

Prescription emailed: Y / N
Pharmacy Name & mail address____

MEDICINE	Instructions
CareSens N blood glucose test meter Mitte: 1 pack	Pregnant woman with diabetes
CareSens N glucose test strips Mitte: 3 months	Test blood glucose 6 times a day for duration of pregnancy – before meals and 2 hours after

Pharmacy: please demonstrate and educate patient on how to operate the glucose meter and strips