Diversity Midwives

Gestational Diabetes Mellitus (GDM)

Section	Antenatal, Intrapartum, Postpartum	Sub-Section	**If applicable**
Protocol	Gestational Diabetes Mellitus (GDM)	Protocol #	2.5
Distribution	Practice Directors, Registered Midwives of Diversity Midwives (Staff Midwives), Students at Diversity Midwives	Page(s)	4
Approved	December 15, 2020	Due to be reviewed	2-5 years later
Effective	December 15, 2020	Revision	#

1.0 **Purpose:** The purpose of this protocol is to be used as a reference tool and a guide for clients when discussing choices regarding screening for gestational diabetes mellitus (GDM) and the management gestational diabetes mellitus. These guidelines pertain to antenatal care.

2.0 **Background:** GDM is defined as carbohydrate intolerance of variable severity with onset or first recognition during pregnancy (1; 2:3). Gestational hormones, typically peaking in the late second or early third trimester, induce insulin resistance. In most pregnant people, this resistance is matched with increased insulin production that keeps blood glucose levels normal. Some pregnant people, however, have inadequate insulin reserves, resulting in elevated blood glucose levels (3).

The prevalence of GDM varies from 1% to 14% depending on studied populations and diagnostic tests employed (1; 2:3)

3.0 **Protocol:**

3.1 HISTORY/RISK FACTORS

- Advanced client age (CDA: ≥ 35 years of age; SOGC: <25 years of age is low risk)
- Previous history of GDM or glucose intolerance
- Previous macrosomia (>4000g)
- Previous unexplained stillbirth
- Previous neonatal hypoglycaemia, hypocalcemia or hyperbilirubinemia
- Obesity
- Repeated glycosuria in pregnancy
- Polyhydramnios
- Suspected macrosomia (2:5)
- High risk ethnic background (Aboriginal, Hispanic, South Asian, Asian, African)
- PCOS, acanthosis nigricans

- Corticosteroid use (to treat inflammation, usually not in our care) (4)

3.2 CLINICAL SIGNS AND SYMPTOMS

- Fundal height >3cm higher than GA
- Hypertension
- Excessive weight gain
- Persistent yeast or UTI

3.3 GUIDELINES FOR SCREENING

- Nutrition and exercise are discussed with all clients. Diet assessments are offered to all pregnant people at initial visits. Weight is self reported at prenatal visits
- When people present with significant risk factors in early pregnancy, they can be offered glycohemoglobin A1c (HbA1c) (consult with their family physician). Although A1c testing is not considered as accurate in pregnancy, a finding of 6.5% demonstrates pre-existing diabetes (4). Early testing for high risk clients may also include 50g glucose challenge test (GCT) or the 75g oral glucose tolerance test (OGTT), if the initial screen is performed before 24 weeks and is negative, rescreen between 24 and 28 weeks (2:8; 5)
- An informed choice discussion regarding GDM and screening/diagnostic tests will be initiated by the midwife in the second trimester
- Recommend screening for pregnant people with 2 or more risk factors.
- GDM screening is *most reliable* when done between 24-28 weeks. The 50g, 1 hour GCT is the recommended screening test.
- When the 50 g GCT result is above the threshold of 7.8 mmol/L, recommend an OGTT for diagnosis. If the plasma glucose level is ≥ 11.1 mmol/L, GDM can be diagnosed without further testing (2)
- If screening was missed or there is a clinical suspicion of later onset GDM, a screening or diagnostic test should be performed (7)
- One elevated glucose level in the OGTT is diagnostic of GDM. Arrange a consult with the Diabetic Clinic at Scarborough Health Network (SHN)
- If insulin is required in the pregnancy, a transfer of care to an obstetrician is necessary.

3.4 GUIDELINES FOR FETAL SURVEILLANCE

- Uncontrolled blood glucose in pregnancy may adversely affect fetal growth, causing either macrosomia or restricted growth. Although research is inconclusive, fetal surveillance could theoretically identify fetuses at risk and provide opportunity for intervention (7)
- It is reasonable to consider weekly assessment of fetal well being beginning at 36 weeks of pregnancy for people with diet controlled GDM, and may include non stress test (NST), NST + amniotic fluid index, biophysical profile (BPP) or a combination (8). Weekly NST could be initiated at 38 weeks

- If co-morbid factors are present such as obesity, evidence of suboptimal glycemic control, large for gestational age (>90%), previous stillbirth, hypertension or small for gestational age (<10%) are present, earlier onset and/or more frequent fetal health surveillance is recommended (8)

3.5 GUIDELINES FOR TIMING OF DELIVERY

- There are currently no evidence-based recommendations for the timing of delivery for people with diet controlled GDM (8)
- The SOGC CPG recommends offering induction of labour between 38-40 weeks gestation, and the 2015 NICE guidelines recommend birth no later than 40+6 weeks (8)

3.6 GUIDELINES FOR POSTPARTUM

- If GDM was diagnosed, glucose tolerance should be reassessed with a 75g OGTT at 6-12 weeks postpartum in order to identify people with persistent glucose intolerance (2:8)

4.0 Procedures:

4.1 INFORMED CHOICE DISCUSSION

Mandatory discussion:

- Midwives will discuss with each client, the above methods of testing depending on their risk factors. All low risk pregnant people will be offered a 50g GCT at 24-28 weeks gestational age
- Clients will be made aware of the recommendations if the tests are positive
- Clients will be made aware of the differences in guidelines for timing of delivery and review of existing co-morbid factors to decided on best individual timing of delivery
- In the absence of spontaneous labour prior to 41 weeks gestation, clients will be offered induction of labour

Additional optional information

- The SOGC states that since there is not enough evidence-based data to demonstrate improved clinical outcomes after universal screening, diagnosis or treatment of GDM, various approaches are acceptable at this time. These include universal screening, screening on a case by case basis using risk factors and clinical findings, or not screening (2)
- Possible benefits of screening: reduction in perinatal morbidity (poor evidence), identification of people at increased risk of future type II diabetes and subsequent opportunity for beneficial lifestyle changes (poor evidence), and diagnosis of pre-existing DM in a very small portion of screened people (6)

- Risks associated with GDM:
    - Macrosomia: 10-25% of people diagnosed with GDM will deliver an infant weighing 4000g or more. Macrosomia is associated with labour dystocia, shoulder dystocia, birth trauma and operative deliveries. Testing for GDM may reduce the rate of macrosomia while possibly increasing the rate of caesarean rates (2)
    - Maternal euglycemia in labour reduces the risks of hypoglycemia, hypocalcemia, hyperbilirubinemia and polycythemia, although all large babies are also at risk for these complications (2:4). There is no evidence to suggest that non-macrosomic GDM infants are at increased risk of metabolic complications (2:4)
    - People with GDM are at risk of developing type II diabetes later in life (2:4). However, most people do not change their lifestyle after the GDM diagnosis (6)

4.2 COMMUNICATION PLAN/STRATEGY

- Midwives will note on one line in the Antenatal 2 in the risk factor section that a client has GDM
- Midwives will have a detailed discussion about shoulder dystocia with clients with GDM
- Midwives can still offer out of hospital birth for clients with diet controlled GDM. However, a midwife should discuss neonatal hypoglycemia and its protocol at the hospital especially if the infant's birth weight is >4000g. Clients choosing out of hospital birth or early discharge from hospital should be made aware of signs and symptoms of neonatal hypoglycemia and how to prevent it with regular feedings and keeping the baby warm
- Breastfeeding is strongly recommended after delivery for all women with pre-gestational diabetes mellitus or gestational diabetes mellitus (2)

4.3 CONSULTATION/TRANSFER OF CARE

- When a client needs insulin in the antepartum or intrapartum, a TOC should be made to an obstetrician. Midwives still offer antenatal visits and labour support in active labour
- Consultation can be made for clients requiring induction of labour

5.0 **References**

1. American Diabetes Association. Gestational Diabetes Mellitus. January 2003. http://care.diabetesjournals.org/content/26/suppl_1/s103.full
2. SOGC Clinical Practice Guidelines. Screening for Gestational Diabetes mellitus. Nov 2002

3. American Diabetes Association. Cellular Mechanisms for Insulin resistance in Pregnancy and Gestational Diabetes. July 2007 http://care.diabetesjournals.org/content/30/Supplement_2/S112.full
4. Canadian Diabetes Association – Clinical Practice Guidelines. Diabetes and Pregnancy. 2013. http://guidelines.diabetes.ca/Browse/Chapter36
5. Aldasouqi S. et al. Glycohemoglobin A1c: A Promising Screening Tool in Gestational Diabetes Mellitus. Int J Diabetes Dev Ctries. 2008 Oct-Dec; 28(4): 121–124. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2822155/
6. Darling L. et al. Screening for Gestational Diabetes. Clinical Practice Guideline Review. AOM. Mar 2006
7. SOGC Clinical Practice Guidelines. Diabetes in Pregnancy. JOGC. 2019. Guideline No. 393-Diabetes in Pregnancy - Journal of Obstetrics and Gynaecology Canada (jogc.com)
8. Association of Ontario Midwives. GDM literature review. Gestational-diabetes-mellitus-backgrounder-PUB_0.pdf (ontariomidwives.ca)

6.0 **Policy Changes:**

Policy #	Approval Date	Describe Change(s)
TBD		First Version of this policy