GUIDELINE:

DIABETES-MATERNAL POSTNATAL MANAGEMENT

AUTHOR:
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SCOPE:
Obstetricians, Paediatricians, Midwives and Nurses working in maternity.

PURPOSE:
To inform all health professionals of the appropriate management of postnatal diabetic women

DEFINITIONS:

TYPE 1 DIABETES
Type 1 diabetes is of autoimmune or viral aetiology with other environmental and genetic factors involved. Incidence of type 1 diabetes peaks in childhood and in the elderly. It usually presents acutely. Islet cell antibodies, IA2 antibodies and/or glutamic acid decarboxylase (GAD) antibodies are often present. Individuals with type 1 diabetes cannot produce adequate insulin levels and consequently are dependent upon insulin injections to control their blood sugar. If their blood sugars are not controlled they are at risk for coma and death.

TYPE 2 DIABETES
The causes of type 2 diabetes remain unknown although an inherited predisposition and life style factors such as obesity contribute. It is more common for members of families with a history of diabetes. However it is less likely among those of European descent. There is a increasing prevalence of Type 2 diabetes worldwide. Type 2 diabetes is associated with significant morbidity and mortality. The goal of treatment is to prevent long term complications and symptoms of diabetes. Women with Type 2 diabetes are frequently first diagnosed with this condition during pregnancy. It can be difficult to differentiate between gestational diabetes and previously undiagnosed type 2 diabetes. A definitive diagnosis can only be made after delivery.

Women with type 2 diabetes may be able to control their blood sugars with diet alone but most will need oral medication and/or insulin. The pancreas produces insulin however the woman’s body is resistant to the action of insulin. Consequently oral medications are often needed to sensitize them to insulin, such as Metformin or Glibenclamide, or insulin injections may be needed. They rarely suffer from DKA (Diabetic Ketoacidosis) though it is not impossible.

GESTATIONAL Diabetes Mellitus (GDM)
GDM is defined as “any degree of glucose intolerance with the onset of first recognition during pregnancy”. The definition applies whether or not insulin is used for the treatment or hyperglycaemia persists after pregnancy.
GDM occurs in 1 to 14 percent of all pregnancies, depending on the population and diagnostic criteria used. It is associated with significant risk of maternal and perinatal complications.
GDM is more likely to be present if there is a history of:

- Obesity, previous large babies, previous gestational diabetes and previous unexplained perinatal loss, miscarriage or premature deliveries.
Glucose tolerance often returns to normal after birth but there is a high risk of subsequently developing Type 2 diabetes (up to at least 50%).

GUIDELINE

Pre-gestational Type 1 diabetes

These women will require close monitoring during the post-natal period and will continue to require insulin. Their blood glucose control may become unstable.

- Following the delivery notify the Diabetes Nurse Specialist (DNS) of the birth and fax a copy of the delivery summary from maternity clinical information system (MCIS) to the diabetic clinic (FAX 8690583). The DNS is usually available Monday to Thursday 08.30 – 17.00 Pager 053 or ext. 8060 where a message may be left if necessary.
- If the woman is to remain nil by mouth continue the IV infusion as set up by guidelines and discussion with obstetrician.
- Insulin requirements will decrease.
- Intermediate acting insulin dosage (Protophane or Humalin N) will generally be 50 % of the antenatal dose plus 1 unit of fast acting insulin (Novorapid or Humalog). Check the woman’s MCIS notes the insulin regime should be planned out in the management plan if not consult with obstetrician to have it added.
- Once the woman is eating and drinking normally, discontinue the IV drip and revert to management plan on MCIS.
- Monitor the blood glucose in the first 12 hrs according to the table for Protocol B (see diabetes guidelines for women in labour). Therefore the frequency of monitoring will depend on the stability of glucose control.
- The minimum blood glucose monitoring should be pre and 2 hours post meals, before bed and at 2am if women are awake and feeding as, Hypoglycaemia is a high risk over the next 2-3 days.
- Be aware of any nausea or vomiting post caesarean section or normal delivery that could result in hypoglycaemia. It is often safer in these cases to suggest women have their insulin immediately following a meal in order to tailor the dose to actual food consumed.
- Continue diabetic diet and snacks, trying to ensure that the dietician review the woman prior to discharge (see guideline for ordering diabetic snacks).
- The woman requires a note review in Antenatal Diabetic Clinic 6 weeks after delivery. The midwife is to schedule this note review if not already been organised in Task Plan on MCIS.
- A postnatal glucose tolerance test (GTT) is NOT required

Pre-gestational Type 2 DIABETES

- The IV insulin infusion will normally be stopped within 30 minutes of delivery. Postnatal insulin regime (if planned) will be recorded by the obstetrician within the management plan on MCIS.
- Insulin requirement will reduce.
- Immediate acting insulin dosage (Protophane or humanlin N) will generally be 50% of the antenatal dose plus 1 unit of fast acting (Novorapid or Humalog).
- If there have been any problems with glycaemic control in the two hours prior to delivery i.e. the glucose less than 4mmol/L, then the IV insulin drip should continue for a further three hours with the blood glucose being monitored hourly. If the blood glucose is 6mmol/L
or above at any time during this three hour period then the IV drip can be discontinued immediately.

- The minimum blood glucose monitoring should be pre and 2 hours post meals and before bed as hypoglycaemia is a high risk over the next 2-3 days. Be aware of any nausea or vomiting post caesarean section or normal delivery that could result in hypoglycaemia. It is often safer in these cases to suggest women have insulin immediately following a meal in order to tailor the dose to actual food consumed.
- Report two consecutive blood glucose reading above 10mmol/L to the obstetrician immediately.
- Notify DNS of the delivery during daytime hours. The DNS is usually available Monday-Thursday 08.30-17.00, pager 053 or ext. 8060 where a message can be left. A copy of the delivery summary from MCIS should be faxed to 8690583.
- Continue diabetic diet and snacks and ensure that the woman is seen by the dietician prior to discharge.
- A postnatal GTT is NOT required.
- The woman should have a note review in Antenatal Diabetic Clinic 6 week’s post-delivery. A midwife to schedule this note review if not already been organised in the MCIS.

**Women with gestational diabetes**

- For woman without diabetes prior to pregnancy (gestational diabetes) and normal glucose monitoring , blood glucose testing should continue pre and 2 hours post meals and before bedtime and stopped after 24 hours.
- Notify obstetrician if two consecutive blood glucose over 10 mmol/L.
- Encourage healthy eating and notify dietician as required.
- A six week note review should be scheduled and recorded in the MCIS by the obstetrician.

**Return of equipment**

The majority of meters and used by women for their management of diabetes belong to the Diabetic Clinic. They should be returned to the DNS either via the postnatal ward or to the Diabetic Clinic prior to discharge from hospital, unless other arrangements have been made by the Diabetic Team.

**ASSOCIATED DOCUMENTS:**

All Hauora Tairāwhiti maternity unit specific diabetic guidelines.

**REFERENCES:**

Acknowledgement to Waikato District Health Board Diabetes Guidelines (2012)
Acknowledgment to Auckland Women’s Hospital Diabetes in Pregnancy Guidelines (2013)