Type 1 and 2 Diabetes and Pregnancy

Disclaimer

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Red Flags

- High HbA1c levels pre-pregnancy
- Hypertension
- Nephropathy
- Retinopathy or foot disease

Assessment

Identify patients who are pregnant and have either type 1 or 2 diabetes mellitus.

Management

Antenatal Management

1. If pre-gestational type 1 or type 2 diabetes, ensure patient is managed in a specialist setting (e.g. Multidisciplinary Diabetes in Pregnancy Clinic) or by a private obstetrician in close liaison with an endocrinologist due to increased risk of miscarriage, congenital malformations, and perinatal mortality.

2. Refer for dietary and exercise advice. Advice will be tailored to the patient's gestation, management, pattern of glycaemia, weight, and gestational weight gain.

3. Advise to continue high folate supplementation of 2.5 to 5 mg daily for the first trimester.

4. Offer prenatal screening and arrange 20 to 22 week specialty morphology ultrasound scan. Advise patient that they will have extra ultrasound scans during pregnancy to monitor fetal health and wellbeing.

5. Monitor for diabetes complications, especially eyes.

6. Pregnant patients with diabetes are 3 to 5 times more likely to develop hypertension in pregnancy and pre-eclampsia.
   - Commence low dose aspirin for prevention of pre-eclampsia from 12 weeks and before 16 weeks of pregnancy.

   *Prevention of early pre-eclampsia*
   - Commence low dose aspirin 150 mg at night from 12 weeks and before 16 weeks of pregnancy, unless contraindicated (e.g., allergy, active peptic ulcer disease, or gastrointestinal bleeding).
   - If risk is recognised after 16 weeks, aspirin can be commenced, however current evidence suggests this may be less effective compared to commencement prior to 16 weeks.
   - Aspirin should be ceased at 36 weeks.
   - Recommend adequate dietary calcium intake. Calcium supplement can be considered if dietary calcium does not meet RDI of 1000 mg per day.
• Check blood pressure and ensure frequent obstetric review to monitor for symptoms of pre-eclampsia.

7. Advise blood glucose monitoring to achieve tight control. Targets need to balance blood glucose excellence and hypoglycaemia. There is good evidence for the use of continuous glucose monitoring (CGM) (Libre), provided free for pregnant women and women planning pregnancy.
   • Fasting 4.0 to 5.5
   • 2 hour post prandial 5.0 to 7.0.
   • Before driving to ensure BGL > 5.0 mmol/L

8. Review:
   • Medications.

<table>
<thead>
<tr>
<th>Review medications</th>
<th>Medication</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cease sulphonylureas, DPP-4 inhibitors, GLP-1 agonists, SGLT2 inhibitors and thiazolidinediones</strong></td>
<td>Not recommended in pregnancy</td>
<td></td>
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<tr>
<td><strong>Can use metformin</strong></td>
<td>Not shown to be harmful at any stage during pregnancy</td>
<td></td>
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<tr>
<td><strong>Cease anti-hypertensive medications (e.g., ACEI and A2RB)</strong></td>
<td>Change to a pregnancy-safe medication, e.g. methyldopa, labetalol, nifedipine</td>
<td></td>
</tr>
<tr>
<td><strong>Cease statins and fibrates</strong></td>
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</tbody>
</table>

• **Insulin requirements.**
  o All insulins in current use are considered safe to use during pregnancy.
  o Be aware of the risk of hypoglycaemia or DKA in women with nausea and vomiting.
  o Insulin requirements are likely to change throughout pregnancy, and insulin doses are likely to require frequent and often significant adjustments.
  o Advise patients to ensure their blood glucose is > 5 mmol/L before driving.
  o Insulin doses can increase very substantially up to 2 to 3 fold after 20 to 22 weeks.
  o A decrease in insulin requirements late pregnancy mandates prompt fetal assessment.
  o Ensure that all patients with:
    - pre-gestational diabetes have their diabetes management supervised by an endocrinologist during pregnancy.
    - type 1 diabetes are considered for continuous or flash glucose monitoring during pregnancy.

Postpartum Management

1. Monitor glucose levels closely to guard against and minimise risk of postpartum hypoglycaemia. Have carbohydrates within hand’s reach especially when breastfeeding.
2. **Insulin requirements** fall rapidly post-partum.
   - **Insulin requirements**
     - Insulin requirements fall rapidly postpartum.
     - Restabilise patients with type 1 diabetes on insulin doses initially lower than pre-pregnancy doses.
3. **Breastfeeding and medications**

- Oral agents are secreted in breast milk.
- Sulphonylureas are not recommended for use by breastfeeding patients.
- Metformin is generally considered safe while breastfeeding. There is a small degree of passage of metformin through the breast milk. A general practitioner may start metformin in a breastfeeding woman with a **maximum of 2 g daily**.
- A decision to recommence metformin whilst breastfeeding should involve an informed discussion with the patient and endocrinologist.
- If subsequent blood glucose monitoring suggests that patient needs medication but is breastfeeding, the general practitioner or endocrinologist may need to recommence insulin therapy. Seek endocrinologist advice if unsure.

4. **Endocrinology review:**
   - Type 1 diabetes – arrange review at 6 weeks following discharge from hospital. Before discharge all patients are given contact details for the diabetes team as glycaemic control is often unstable.
   - Type 2 diabetes – arrange review at 6 weeks following discharge from hospital.

**Referral**

- Refer all pregnant women for an **urgent or routine endocrinology review**.
- See **Statewide Obstetric Referral Criteria** for referring pregnant women with Type 1 and 2 diabetes to a level 6 public hospital maternity service.
- Refer for **dietetics** if not already arranged.

**Information**

**For health professionals**

**Further information**

Australasian Diabetes in Pregnancy Society (ADIPS) – [Consensus Guidelines for the Testing and Diagnosis of Gestational Diabetes Mellitus in Australia and New Zealand](#)

**For patients**

- Diabetes Australia – [Pregnancy](#)
- The National Diabetes Services Scheme (NDSS) – [Pregnancy and Diabetes](#)

**References**

Select bibliography


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Last updated: June 2020