

DIABETES AND WOMEN

CONTRACEPTION

Contraception should be discussed with all diabetic women in the child-bearing age group.

1. Combined Oral Contraceptive Pill (OCP)

- Low dose oestrogen preparations are safe for use in the majority of diabetic women
- They may cause a rise in BP and raise HDL cholesterol and triglycerides (oestrogen).
- Monitor BP, weight and HbA1c twice yearly, assess lipids annually and discontinue if hypertension or deteriorating lipid metabolism occurs.
- Avoid when complications of diabetes or risk factors for vascular disease present or in older women (> 35 years). However a value judgement should be made in women for whom avoidance of pregnancy is essential.

2. Progestogen-Only Pill (POP)

- No vascular side-effects or effects on lipid metabolism.
- Less effective than the combined OCP.
- Irregular periods or inter-menstrual bleeding may occur
- Injectable and implantable progestogens are suitable for some patients, particularly if compliance is an issue. However deterioration in glycaemic control may occur. No vascular side-effects or effects on lipid metabolism.
- Less effective than the combined OCP.
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3. Intra-Uterine Contraceptive Device

- The main advantage is the lack of metabolic effects
- There is a theoretical risk of infection causing salpingitis

4. Mechanical Contraception

- Not recommended if it is essential to avoid pregnancy due to the high failure rate.

5. Sterilisation

- Sterilisation may be advised if further pregnancy represents a serious risk to health.
- Obesity adds to the risk of the procedure and the failure rate is 0-0.5 per women years

HORMONE REPLACEMENT THERAPY IN DIABETES

- HRT, alone, helps to relieve the hot flushes and episodes of excessive sweating associated with the menopause.
- It is now evident that HRT confers an increased risk of venous thromboembolic disease, breast cancer and ischaemic heart disease. These risks bear on the duration of HRT treatment and its relief of peri-menopausal symptoms, with most practitioners recommending 2-3 years treatment only.
- This recommendation presently holds true for non-diabetic women and the same recommendation most probably applies to diabetic women also.

Where once HRT was recommended as prophylaxis against bone fracture in treatment of osteoporosis, the risks of HRT are now thought to outweigh potential benefit, in terms of bone protection, offered by HRT prescription.

GESTATIONAL DIABETES

Gestational diabetes mellitus (GDM) affects 2-4% of pregnancies and is defined as carbohydrate intolerance of variable severity, with onset or first recognition in pregnancy. A screening programme for GDM should identify those pregnant women with blood glucose levels that are associated with an adverse fetal outcome or an increased risk of future diabetes in the mother.

- In normal women during pregnancy, the range for fasting blood glucose is lower than in non-pregnant women
- Glycosuria with normal blood glucose levels is common, due to a lowering of the renal glucose threshold.

Screening for GDM

- Urine should be tested at each antenatal visit for glycosuria (preferably fasting sample)
- Timed laboratory venous plasma glucose measurements should be made
 - ⇒ At booking visit
 - ⇒ At 28 weeks gestation
- A 75g oral glucose tolerance test (OGTT) should be performed if the plasma glucose is
 - ⇒ > 5.5 mmol/L 2 hours or more after food
 - ⇒ > 7.0 mmol/L within 2 hours of food
- Diagnosis of GDM is made on OGTT as follows:
 - ⇒ Fasting glucose > 5.5 mmol/L or
 - ⇒ 2 hour glucose > 9.0 mmol/L

Management of GDM

- Refer to Combined Diabetes Antenatal team.
- Dietary advice should be given in all cases.
- If fasting or pre-prandial glucose is consistently greater than 6mmol/L, insulin should be introduced (usually b.d. regimen will suffice)
- Glucose targets are similar to patients with established diabetes
- In most cases, insulin can be discontinued at delivery
- Ensure that normoglycaemia returns after delivery
- A 75g OGTT should be performed at around 6 weeks post-partum and the results interpreted according to WHO criteria
- **The condition is associated with an increased risk of future diabetes** (usually Type 2 DM)
- Check fasting plasma glucose annually in women with a history of GDM to identify asymptomatic diabetes and screen for the condition in a future pregnancy.

Women with previous GDM should be made aware of the benefits of exercise and importance of weight control, to avoid the development diabetes

PREGNANCY IN WOMEN WITH DIABETES

Improved diabetic control in early pregnancy can reduce the incidence of congenital malformations and early spontaneous fetal loss.

- Take a full medical, obstetrical and gynaecological history
- Review current medication. Note: ACE Inhibitors and Statins should be discontinued
- Prescribe Folate 5mg daily for at least a month pre-conception and during first trimester
- Assess for presence of diabetic complications and treat blood pressure if required
- Check rubella antibody status, thyroid biochemistry and urinalysis
- Advise on diet and weight reduction if relevant and strongly discourage smoking
- Educate on the importance of good glycaemic control and avoidance of ketoacidosis
- Aim to obtain HbA1c near to the non-diabetic range, while avoiding hypoglycaemia
- Instruct partners to recognise and manage hypoglycaemia
- In women with type 2 diabetes, initiate insulin in those receiving oral hypoglycaemic agents or where it is not possible to obtain good control with diet alone and exercise, since OHA's are contra-indicated in pregnancy.

Women who are well-controlled and free of complications can be advised to stop contraception and to keep a record of periods. Other women may require additional time to optimise glycaemic control or to have investigation and treatment of complications.

Advise patients to perform a pregnancy test if there is a lapse of five weeks between periods and contact a Diabetes Specialist Nurse soon after obtaining a positive result

Ante-natal Care

- **Ante-natal care should be hospital-based, from a multi-disciplinary team**
- Individualise insulin regimens and recommend 4-times daily glucose monitoring.
- Aim to maintain glucose 4-7 mmol/L and HbA1c within the normal non-diabetic range
- Remember insulin requirements increase progressively from the 2nd trimester until the last month of gestation, when a slight fall-off may be noted
- Hypoglycaemia and loss of awareness is common in early pregnancy. Hypoglycaemia does not appear to have long-term adverse effects on fetal development
- Ketoacidosis can cause fetal death at any stage. All women should test urine for ketones if blood glucose is high, if vomiting occurs or if they are unwell.
- All women should have regular dilated funduscopy and measurement of blood pressure and renal function, as retinopathy and nephropathy may deteriorate during pregnancy.
- Patients generally attend for ante-natal care at intervals of 2-4 weeks from booking up to 28 weeks, every 2 weeks until 34 weeks and thereafter weekly until delivery.

Delivery

- The timing of delivery is individualised; in women with good diabetic control and no complications, the pregnancy may be continued to 39-40 weeks
- Caesarian section rates are often higher than in non-diabetic women.

Post-natal Care

- Insulin requirements fall dramatically after delivery, therefore reduce insulin doses immediately to pre-pregnancy levels, to avoid hypoglycaemia
- Encourage slightly higher blood glucose levels than during pregnancy
- In breast-feeding mothers, reduce insulin dose further once lactation is established
- Discuss contraception while the patient is still in hospital
- All women should be seen by the diabetes pregnancy care team six weeks after delivery