Pre conception advice

Overview

- Diabetes is the most common pre-existing medical disorder complicating pregnancy in the UK.
- Affect 5% of all pregnancies in UK.
  - 87% GDM
  - 8% Type 1
  - 5% type 2
- Diabetes in pregnancy is associated with risks to mother, foetus, and baby

Risks to mother

- Diabetic Ketoacidosis
- Hypoglycaemia
- Pre-eclampsia
- Premature labour
- Polyhydramnios
- Infection
- Difficult labour
- Worsening eye and kidney problems

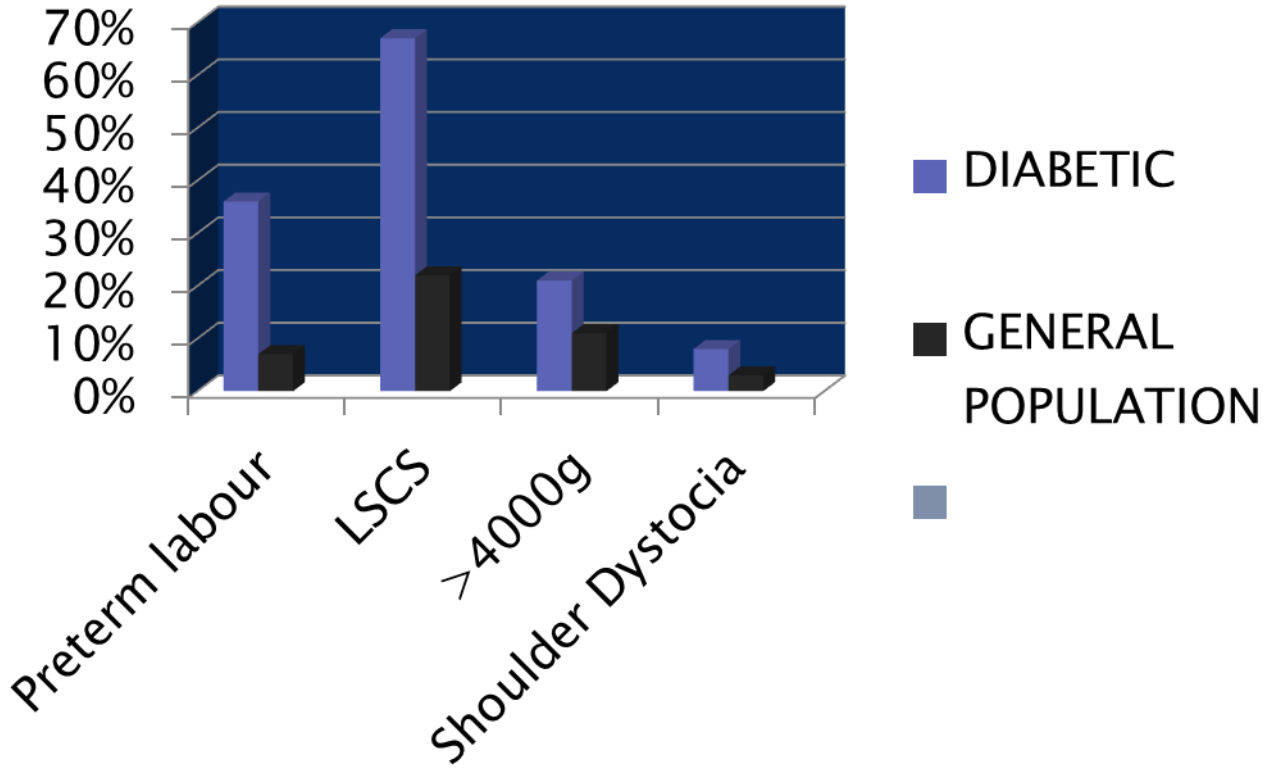
Risk to foetus

- Malformations
- Macrosomia
- Death

Risks to new born

- Hypoglycaemia
- Jaundice
- Respiratory Distress

CEMACH FINDINGS (2003)



- Still birth rate 5 x
- Perinatal mortality 3 x
- Congenital malformation 2 x

That was a long time ago, but NDIP – the national diabetes in pregnancy audit (2013) showed:

- More pregnancies in women with type 2 diabetes compared to 2003 report:
  outcomes unfortunately similar

- Only 33% of women were taking recommended 5mg dose of folic acid prior to pregnancy
- Few HbA1c results in first trimester of pregnancy below the NICE target of 43 mmol/mol (6.1%)
  - 5.1% of women with Type 1 & 18.5% of women with Type 2 diabetes
- Nearly 1 in 10 women with Type 2 diabetes (9.4%) were taking blood glucose medications that may be **harmful in pregnancy**, at their last menstrual period

- *“The outcome data confirm the continuing adverse impact of pre-existing diabetes on pregnancy with high levels of congenital anomalies, stillbirths, neonatal deaths and babies that are large for gestational age.”*

"We should urgently develop a strategic focus on improving:

- Preparation for pregnancy, including engaging with primary care teams locally to raise awareness and enhance pregnancy planning
- Develop plans to incorporate training about pregnancy into patient education programmes especially for women with Type 2 diabetes
- Focus on improving glycaemic control during pregnancy for women with both Type 1 & Type 2 diabetes to avoid late adverse fetal outcomes.

National Pregnancy in Diabetes Audit (2013) Available from www.hscic.gov.uk/catalogue/PUB15491/nati-preg-in-diab-audi-rep-2013.pdf

The facts

- Only 25% of women receive pre conception advice / counselling
- Risks associated with pregnancy increase with how long the woman has had diabetes
- Effective care pre pregnancy can significantly improve pregnancy outcomes
- NICE 2015 updated guideline
  - All women from adolescent should be counselled on the effects of pregnancy on both them and their baby.
- Need to think about what medication to treat women who may be considering pregnancy.

Preconception advice – NICE 2015

- Inform women of the risks and how to reduce these risks = forward planning in a positive way
- **Record the woman's intentions regarding pregnancy and contraception use at each contact**
- The importance of avoiding unplanned pregnancy should be an essential component of diabetes education
- Contraception should be based on women's own preference and any other standard risk factors
  - ***Oral contraceptive can be used if no standard contraindications***

General advice

If considering pregnancy – refer to specialist care for pre conception advice

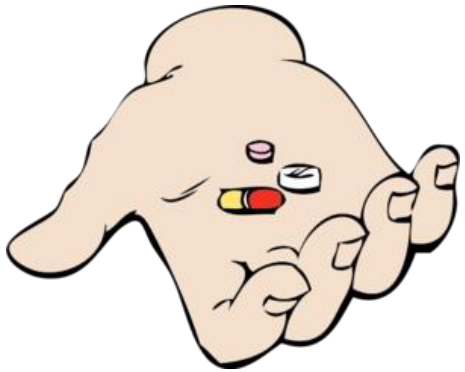
- HbA1c target below 48 mmol/mol (6.5%) if achievable without significant hypoglycaemia
- Reassure women that any reduction in HbA1c level towards the target of 48 mmol/mol (6.5%) is likely to reduce the risk of congenital malformations in the baby.
- Strongly advise women with HbA1c above 86 mmol/mol (10%) to not get pregnant

National Institute for Health and Care Excellence (2015) Diabetes in pregnancy: management of diabetes and its complications from preconception to the postnatal period. NG3. 2015. Available from www.nice.org.uk/guidance/ng3

- Individual dietary advice – refer to specialist diabetes dietitian
- Women with BMI above 27 need advice on how to lose weight
- Folic Acid 5 mgs during planning phase – at least 3 months prior
- Monthly HbA1c measurements
- Pre and post blood glucose monitoring targets:
  - Fasting - 5.3 mmol/L
  - 1 hr 7.8 mmol/L
  - 2 hr 6.4 mmol/L
- Blood ketone monitoring **in both** type 1 and Type 2 diabetes
- Insulin / metformin is the only treatment recommended in pregnancy

Safety of medicines

- Women can continue on Metformin – so don’t stop this
- All other oral medication should be stopped and insulin commenced
- Statins, Ace inhibitors, ARB should be stopped, offer alternative suitable in pregnancy if required.



- Retinal screening at first preconception appointment (unless done within the last 6 months)
- Renal assessment - microalbuminuria
- Lifestyle issues, smoking, alcohol, increasing activity
- Hypoglycaemia management

First steps advice if pregnant

- Refer to specialist service and community midwife ASAP
- Stop all oral / Injectables except Metformin and commence insulin – basal bolus regime
- Commence folic acid 5 mgs
- Complication screen
- Increase blood glucose monitoring pre and post meal
- Community diabetes team – Tel 724938

Dietary Considerations

Stabilise Eating

- Regular carbohydrate
- Little and often approach
- Healthy eating (iron, calcium content of diet)
- Awareness that when pregnant – not eating for 2
- Food safety advice once pregnant

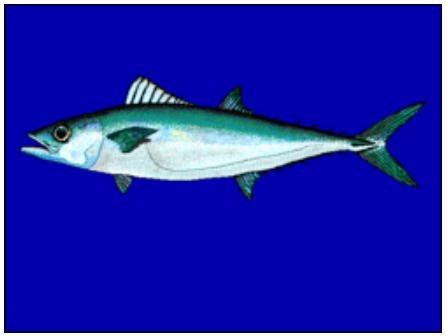
Carbohydrates

- Carb counting education
- Avoid large carb portions – difficult to match with insulin and remain within BG targets
- Aim for similar carb portions with each meal to avoid spikes in BG 1hr post meal
- Look at snack portions – aim for up to 15g CHO (may help to prevent hypo's)
- Encourage low glycaemic index foods

Vitamin D

- Rickets on the return
- Supplement 10 micrograms daily throughout pregnancy and breastfeeding
- Encourage dietary sources (oily fish, margarines, oils, eggs, supplemented cereals)
- Sun (unlikely to get sufficient in this country) – 20 mins exposure daily where possible at lunch time

Omega 3



- Maternal cardioprotective benefit
- Baby eye and brain development
- Sources – oily fish (best source and evidence based)
- Supplements – no evidence of benefit, encourage dietary sources, patient's choice if they supplement

Weight Management

- Refer to Institute of Medicine (2009) recommendations for weight gain in pregnancy (singleton or twin pregnancy) – they are a guide, but not evidence based
- Based on pre-pregnancy BMI
- If BMI raised prior to pregnancy, encourage weight loss
- Encourage sensible weight gain when pregnant (weight monitored throughout pregnancy):
  - 1lb / wk weight gain in normal weight individual in 2nd and 3rd trimesters
  - half a pound / wk in overweight or obese in 2nd and 3rd trimesters
- Encourage exercise / activity prior to and during pregnancy

Post-natal

- If breastfeeding, to be aware of increased need for calories
  - Additional 500 - 600 kcals daily (60-80g CHO daily)
  - Utilise snacks – e.g. milk and biscuit whilst breastfeeding
- Increased risk of hypo's
  - May need insulin reduction, but with caution as this can affect milk production (milk production requires energy)
- Continue vitamin D supplements

ANY QUESTIONS?

Case 1

- Julie is 41, very active, and takes gliclazide 160mg mornings; her HbA1c is 48mmol/mol.
- She also takes a statin for familial hypercholesterolaemia - her recent total cholesterol was 3.9
- She recently married her triathlon training partner
- Discuss options for her ongoing management

Case 2

- Jill; 24 year old female with T1DM for 10 years. Father has poorly controlled T1DM. Chaotic social circumstances. Currently living with partner and wanting to conceive
- Poor vision due to retinopathy. Limited mobility due to previous Charcot related foot deformity
- Recurrent DKA related admissions, usually precipitated by infection or poor compliance with insulin
- Discuss options for ongoing management

Case 3

- Joanne is a 28 year old female, diagnosed with gestational DM in her 1st pregnancy aged 25. Her 6 week postnatal OGTT confirmed diabetes with the 2 hour BG being 11.4.
- Her HbA1c then was 56 and she was started on metformin 500 mg BD. This dose was increased 6 months later to 1g BD.
- Her most recent HbA1c is still 56. Her BMI 26. On questioning she reports her mother developed DM aged 42. Her grandmother also had diabetes but no details are known as she passed away in a RTA.
- She is wishing to conceive again so asks for a review.
- She has been informed she has T2DM. Is this correct?
- What are the implications for pregnancy?
- How would you manage the pre-conception period?