FRCA Podcast

Episode 15 - Diabetes and Pregnancy

Epidemiology

Diabetes or gestational diabetes complicate 5% of pregnancies, that is 1 in 20. Probably not unsurprising given that in the UK 1 in 10 adults has diabetes (90% of which is type II diabetes) and an estimated 1 in 5 adults have pre-diabetes or non-diabetic hyperglycaemia.

Diagnosis

Gestational diabetes typically arises in the second and third trimester.

Clinical Consequences

Fetal	Maternal	Delivery
Congenital malformation	Glucose control (hyper- and hypoglycaemia)	Instrumental and Caesarean delivery (higher rates)
Macrosomia (affects delivery)	Comorbidities (micro and macrovascular)	Birth injuries
Neonatal		
Rebound hypoglycaemia (post-partum) - beta cells are greater in number - feeding should be commenced promptly.		

Glucose control (peripartum)

Monitor every hour.
Pregnancy reduces awareness of hypoglycaemia.

Target range for pregnancy, labour and delivery: 4-7 mmol/L (tighter control than ordinary surgical patients in order to avoid neonatal rebound hypoglycaemia).

Post-partum the patient's insulin requirements will fall rapidly.
The target for plasma glucose reverts to 6-10 mmol/L.

Breast feeding can lead to hypoglycaemia. Women should be encouraged to eat and drink as normal, and to have a snack after the baby has fed.

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Variable Rate Insulin Infusions VRII

- First line management - patient's usual medication. This is usually Metformin or insulin - all other antidiabetic medications are contraindicated or should be avoided in pregnancy)
- Second line management - variable rate insulin infusion

Insulin is a drug with a narrow therapeutic range, given directly into the circulation in the context of a VRII. There are several stages at which mistakes can be made; prescription, preparation, administration. It is hard enough to manage these infusions on the critical care unit, let alone on a busy labour ward. Standardised protocols and a dedicated specialist team are required.

Prescription (insulin and fluids)	
Preparation (pre-filled syringes are best)	
Pump programming	
Equipment (dedicated cannula, disconnections, anti-siphon valves)	
Monitoring	
Safe initiation and safe discontinuation	

Recommencing regular insulin

When eating and drinking normally.
Recommence long-acting insulin to 50% of the dose taken during late pregnancy.
Recommence anti-diabetic medications

All of the above in consultation with the diabetic team (usually midwife nurse specialists).