APPROACH TO HYPOGLYCAEMIA IN PRETERM INFANTS

Initial considerations

Review glucose thresholds for preterm infants

Does the baby need a glucose bolus? (BG<1 or symptomatic hypoglycaemia)

Is there a specific consultant or endocrine plan in the baby's notes for their blood glucose management?

Consider the underlying cause

Is the baby unwell?

Is the total daily fluid volume appropriate?

If on feeds, has the baby been fed appropriately?

If on IV fluids/PN, is access working normally and have there been any recent interruptions to glucose delivery?

Consider the following initial interventions **(remember not all will be appropriate for your baby)**

If on feeds, avoid stopping feeds altogether if possible

Consider reducing feed interval – from 3 to 2 hourly volumes, or from 2 to 1 hourly volumes

In certain circumstances fortifier may be added to breast milk to address hypoglycaemia but this is usually only initiated by a consultant (possibly after discussion with a dietician)

Consider increasing IV fluids one step up

Glucogel use is not routinely used in preterm infants

If these measures alone are not sufficient to improve glucose level, consider higher glucose load – increase GIR by increments of 1-2 mg/kg/min.

Intravenous glucose infusion rate (GIR) in mg/kg/min =

[Total daily volume of IV glucose (ml/kg/d) x concentration of glucose (%)] / 144

If needing to concentrate glucose, use local Simpson's Glucose calculator

If requiring more than 15% glucose consider siting central access

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When to repeat glucose measurement

If any change is made in response to hypoglycaemia, it is important to re-check glucose at an appropriate time interval. If the BG is <1, or the baby is symptomatic, or there are additional concerns this should be within 30 minutes.

Glucose measurement should be taken every time a change is made to feeding intervals (check before next feed) or when weaning off PN/IV fluids onto feeds.

When to perform a hyposcreen

Consider a hypo screen if otherwise unexplained hypoglycaemia:

Any BG of <1 mmol/L, or 2 or more BG <2 mmol/L, or BG <2.5 and neurological dysfunction

Also consider if hypoglycaemia an ongoing problem at >72hrs old

Note: Hyperinsulinism is a rare condition and is not the underlying issue in the vast majority of hypoglycaemic preterm infants. However, this should be considered if hypoglycaemia persistent and other causes have been excluded.

When to discuss with a consultant

Discuss any baby where hypoglycaemia has not responded to simple measures (as outlined above) or where it is severe

Discuss any babies with recurrent hypoglycaemia

Discuss any baby you are unsure about