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GUIDELINES

Intrapartum Metabolic Management

The *non-insulin dependent pregnant diabetic including gestational DM and pre-pregnancy IGT/NIDDM* can be generally managed as normal patients provided that the progress of labour is spontaneous and not prolonged. Blood glucose monitoring remains essential. Any undue rises or drops in blood glucose levels in the non-insulin dependent diabetic can be managed by the introduction of a glucose and insulin infusion pump regimen as for the insulin-dependant diabetics.

The intrapartum management of the *insulin-dependent pregnant diabetic including pre-pregnancy IDDM and insulin-dependent GDM* requires careful attention to prevent ketoacidosis and maintain the blood glucose as near normal as possible. Unless the *diabetic insulin-dependant patient* has a very rapid spontaneous labour, it will be necessary to administer intravenous insulin and dextrose to prevent ketosis and hypoglycaemia. For patients who are planned to undergo induction of labour, the morning insulin dose should be omitted.

Blood glucose monitoring remains essential. Blood glucose should be measured hourly using a meter at the bedside. The blood glucose levels

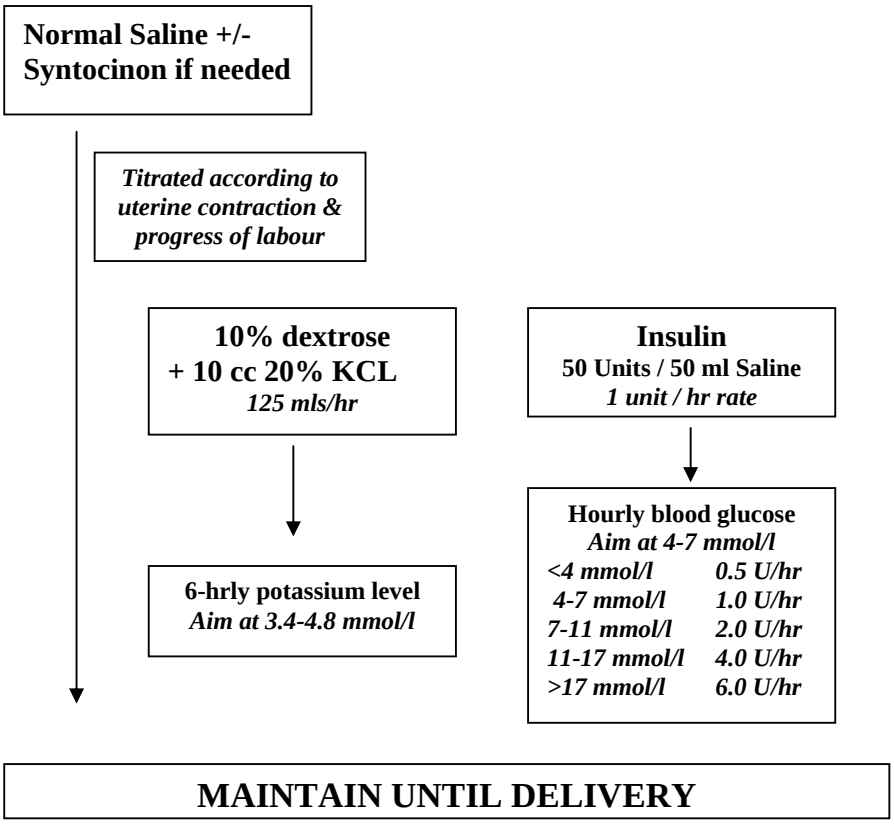
should be maintained between 4-7 mmol/l. Higher blood glucose levels predispose the infant to neonatal hypoglycaemia.

To administer dextrose and insulin as necessary, an intravenous access using a three-way tap specific for this regimen should be set up. To one end set up dextrose infusion (10% dextrose + 10 cc 20% KCL @ 125 ml/hr) and to the other set up a pump with insulin (Actrapid or Humulin R) using 50 units insulin in 50 mls of N. Saline (1U/ml @ 1 unit/hr rate).

The insulin dose should then be adjusted according to the table below based on hourly blood glucose levels. If patient is receiving the minimum insulin infusion rate of 0.5 units/hr and blood glucose remains <4.0 mmol/l then decrease in insulin pump rate by 1/2 to 0.25 units/hr and recheck blood glucose after 30 minutes.

Blood Glucose (mmol/l)	Insulin infusion rate
Below 4.0	0.5
4.0-7.0	1
7.0-11.0	2
11.1-17.0	4
>17.0	6

Potassium levels should be checked at admission and 6-hourly to maintain levels between 3.4-4.8 mmol/l. Any syntocinon administered should be given in an infusion of normal saline via a separate infusion pump.


Normal Saline +/-
Syntocinon if needed
Titrated according to uterine contraction & progress of labour
10% dextrose
+ 10 cc 20% KCL
125 mls/hr
6-hrly potassium level
Aim at 3.4-4.8 mmol/l
Insulin
50 Units / 50 ml Saline
1 unit / hr rate
Hourly blood glucose
Aim at 4-7 mmol/l
<4 mmol/l 0.5 U/hr
4-7 mmol/l 1.0 U/hr
7-11 mmol/l 2.0 U/hr
11-17 mmol/l 4.0 U/hr
>17 mmol/l 6.0 U/hr
MAINTAIN UNTIL DELIVERY

Post-partum management:

Stop dextrose+insulin infusion or insulin pump soon after birth and let the mother start a normal diet. It is highly unlikely that patients who during pregnancy did not require insulin will do so after delivery. Monitor blood glucose levels 4 hourly and give Actrapid insulin according to the sliding scale below. If patient cannot start normal diet, e.g. after Caesarean section, maintain 10% dextrose with KCL (10 cc of 20%) and Actrapid 12 units until a normal diet can be resumed.

Insulin-dependent patients who require intravenous feeding postpartum, e.g. post-Caesarean section, should have their insulin infusion rate decreased to **half** their intra-partum requirements and managed according to hourly blood glucose levels. Alternatively stat doses of Actrapid insulin can be given according to hourly blood glucose levels as per sliding scale below. When the patient can resume her diet, then the insulin pump should be stopped and the insulin dose in IDDM patients should be reduced to about the pre-pregnancy levels. Monitor blood glucose levels 4 hourly and give Actrapid insulin according to sliding scale.

Blood Glucose levels	**Insulin Dose**
10.0-12.2 mmol/l	4 units
12.2-13.3 mmol/l	6 units
13.3-15.6 mmol/l	8 units
15.6-16.7 mmol/l	10 units
16.7-18.9 mmol/l	12 units
18.9 mmol/l	14 units