



Emergency Treatment of Diabetic Ketoacidosis

TO BE USED ONLY IN CONSULTATION WITH A PEDIATRIC INTENSIVIST

- I. Diagnosis** (patient must have)
- Hyperglycemia (serum glucose >300)
 - Acidosis (pH < 7.3 or HCO₃ <15)
 - Ketosis (ketones in urine or acetone/ketones in blood)
- Diagnosis is supported by *polyuria* and *polydipsia* or *known diabetic*
Other Diagnosis to consider: Sepsis and Shock, Asthma/Steroids, and Nonketotic hyperosmolar Coma (if glucose is >1000)
- II. Laboratory evaluation**
- Initial: Urinalysis, Basic Metabolic Panel
 - Hourly: finger stick glucose
 - Every 2 hours: Basic Metabolic Panel
- III. Monitoring**
- Cardiac monitor, potassium fluctuations may be associated with arrhythmia
 - Glasgow Coma Score (GCS) at least hourly
 - Call for drop in GCS >2 points, severe headache, persistent vomiting
- IV. Fluids:** Goal is to avoid excessive fluid administration or rapid osmotic shifts
- If hypovolemia present: Consider fluid bolus with 20ml/kg Normal Saline (0.9% NS) IV.
 - Maintenance fluid (start with 0.9% NS)
 - Change IVF to contain dextrose (D5NS or D10NS) when serum glucose < 300
 - May add potassium (20-40 mEq/L) if patient making urine, on insulin, and K < 5.5 mEq/L
 - Do not give Sodium Bicarbonate.** Administration has been associated with increased likelihood of cerebral edema
- | Weight | Rate of IVF |
|---------|--------------------------|
| <10 kg | 8 x (weight in kg) ml/hr |
| 10-15kg | 90 ml/hr |
| 15-20kg | 120 ml/hr |
| 20-30kg | 140 ml/hr |
| 30-50kg | 160 ml/hr |
| 50-80kg | 200 ml/hr |
| >80kg | 250 ml/hr |
- V. Insulin drip**
- Start insulin drip at 0.1 units/kg/hour
 - May use 0.05 units/kg/hour in children less than 2 years old
 - Make insulin concentration mixed 1 unit/ml in normal saline
 - Goal: SLOW correction of the acidosis and hyperglycemia
 - Goal: drop glucose by 100mg/dL per hour, then keep between 200-300
 - DO NOT GIVE IV INSULIN BOLUS.** While adults tend to be insulin resistant and can tolerate bolus insulin, children do not. Bolus doses of insulin have been associated with CARDIAC ARREST in children.
 - Run insulin into same IV as the IVF

**DO NOT GIVE SODIUM BICARBONATE
DO NOT GIVE INSULIN BOLUS**

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