

TYPE I DIABETES MELLITUS

What is it?

Immune destruction of the beta cells of the pancreas
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 Absolute insulin deficiency

Clinical presentation

3P's (Polyuria, Polydipsia and Polyphagia) and weight loss

Diagnostic criteria

- (1) Glucose ≥ 200 mg/dL + sx
- (2) Fasting (8 hr) glucose ≥ 126 mg/dL
- (3) 2 hr post-prandial ≥ 200 mg/dL (glucose tolerance test)
- (4) HbA1C $\geq 6.5\%$

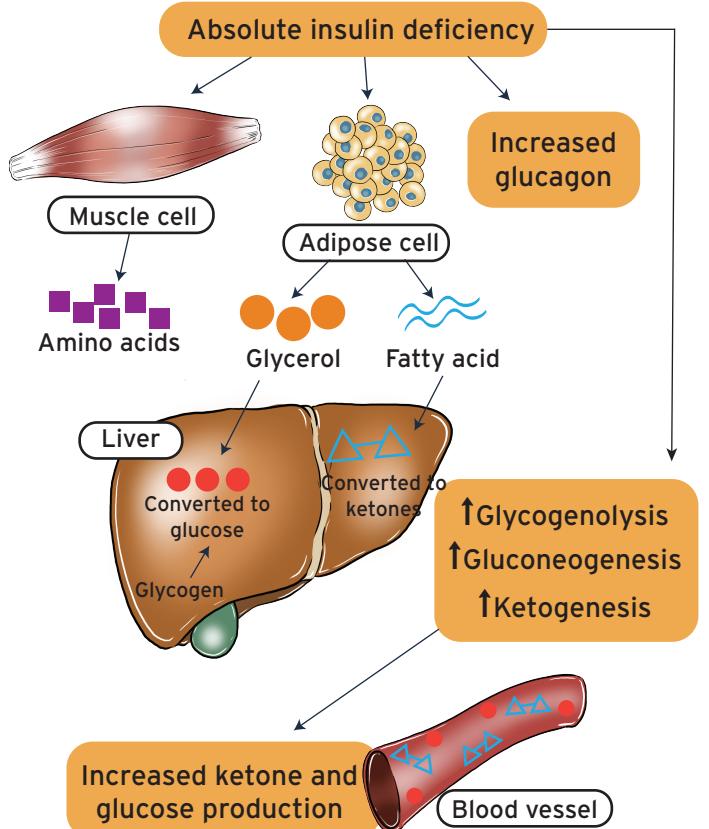
Supplementary labs

- Insulin antibodies: GAD, IA2, insulin, zinc transporter
- Urinalysis
- Beta hydroxybutyrate

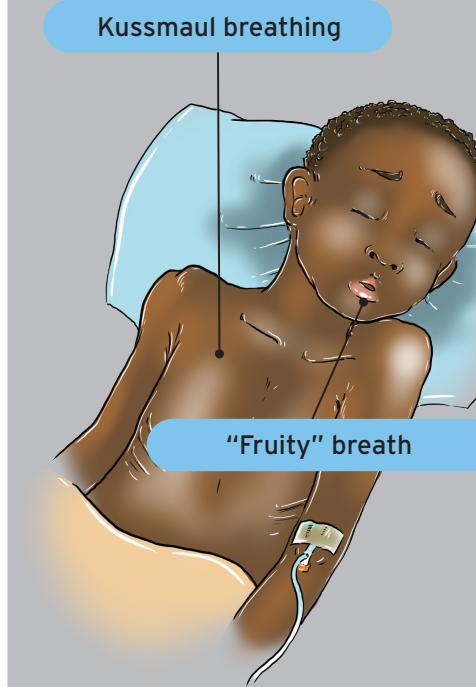
Treatment

Insulin replacement is required for survival!

Pathophysiology



Diabetic Ketoacidosis (DKA)



Criteria

- Hyperglycemia ($>=200$ mg/dL)
- Metabolic acidosis: venous pH < 7.3 or serum $\text{HCO}_3 < 15$ mEq/L
- Ketosis: (+) ketones in blood or urine

Treatment

- Fluid resuscitation: replace fluid deficit at even rate to avoid large shifts in sodium
- Electrolyte repletion: maintain serum potassium at 3.5 ~ 4.5 mEq/L by adding K^+ to fluids
- Continuous insulin therapy: Normalize glucose levels with IV insulin (to correct acidosis and close anion gap) before transitioning to SC insulin

! Do not give immediately, as fluids alone will cause glucose levels to drop!

! Monitor mental status closely, as rapid osmolyte shifts can lead to cerebral edema