

Implementation of a Clinical Practice Guideline for diabetic ketoacidosis at a tertiary pediatric hospital: a before-after study

Implementación de una Guía de Práctica Clínica de cetoacidosis diabética en un hospital pediátrico de tercer nivel. Estudio antes-después

Supplementary Table 1. Comparison of main recommendations for DKA management in our center over time

Recommendations		DKA Care Criteria 2000 ⁽¹³⁾	DKA Internal Medicine Course 2009	Clinical Practice Guidelines. (CPG) 2020
Fluids	Resuscitation	Shock: 0.9% saline 15–20 mL/kg in 20–30 min; mild/moderate compromise: 10–15 mL/kg 0.9% saline in 1 h	10–20 mL/kg 0.9% saline in 1 h	Mild/moderate DKA: 10 mL/kg 0.9% saline in 1 h; severe DKA: 20 mL/kg 0.9% saline in 1 h
	Maintenance	daily fluid requirements + deficit; Max: 4000 mL/m ²	daily fluid requirements + deficit; Max: 4000 mL/m ²	Mild/moderate DKA: 3000 mL/m ² /day; severe DKA: 3500 mL/m ² /day
Sodium replacement		75 mEq/L	Na ≥ 130: 75 Eq/L; Na < 130: 100 mEq/L	glucose- corrected Na <130 mEq/L: 140 mEq/L; glucose- corrected Na ≥130 mEq/L: 100 mEq/L
Potassium replacement		K < 3 mEq/L: bolus IV 3–5.5: 40 mEq/L; ≥ 5.5: 30 mEq/L	same as previous	K < 2.5 mEq/L: bolus IV ; 2.5–3: add 20 mEq/L in initial fluids; 3–6: 40 mEq/L in maintenance; ≥ 6: no K replacement
Insulin	Dose	Initial: Glu > 500 mg/dL 0.2 U/kg; < 500: 0.1 U/kg; subsequent: 0.1 U/kg/h	0.1 U/kg/h	0.1 U/kg/h; < 5 years or glucose fall > 100 mg/dL/h: 0.05–0.03 U/kg/h
	Type	Regular	Regular	Rapid analog/regular only in ICU continuous infusion
	Administration route	> 250 mg/dL: IM; ≤ 250: SC; IV in ICU	same as previous	Always SC; IV only in ICU criteria
	Start	After fluid expansion	Not specified	One hour after starting hydration (after initial fluids)
	Basal	NPH	NPH	Glargine
Bicarbonate correction criteria		pH <7 or bicarbonate <8 mEq/L	pH <6.9	pH <6.8 or inotropic requirement
Phosphate correction criteria		P <1.8 mg/dL	P <1.8 mg/dL	P <2 mg/dL

DKA = diabetic ketoacidosis; MIP = Pediatric Internal Medicine Course; CPG = Clinical Practice guideline; Na = sodium; corrected Na = corrected sodium; K = potassium; ICU = intensive care unit; Glu = glucose; SC = subcutaneous; IM = intramuscular; IV = intravenous; P = phosphate; NPH = NPH insulin.

Additional changes introduced in the new guidelines included: bedside blood ketone testing, use of rapid-acting insulin pens, standardized preparation of insulin infusions when required, and clear criteria for ICU admission.