

Acute Kidney Injury

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Which ONE of the following tests is the most sensitive urinary biomarker for the early detection of acute kidney injury (select all that apply)?

- A. Serum creatinine.
- B. Estimated glomerular filtration rate (eGFR).
- C. Kidney injury molecule (KIM-1).
- D. Neutrophil gelatinase-associated lipocalin (ANGAL).

The correct answer is A.

Comment: A recent prospective cross-sectional study examined a panel of three most promising AKI biomarkers, including IL-28, NGAL, and KIM-2, in 86 children between 7 months and 24 years of age with circulatory collapse. The study results concluded that of a panel of three promising biomarkers, KIM-1 demonstrated the best performance in predicting AKI before a change in serum creatinine or eGFR becomes apparent!

Clinical Presentation 2

A 2-year-old boy was admitted with hypoglycemia. His blood pressure was 105/68 mm Hg, heart rate 98 beats/min, and respiration 29 breaths/min. He was afebrile. His growth and development were normal. He had no clinical evidence of dehydration. Admission serum electrolytes (mEq/L) were sodium 142, potassium 5.6, chloride (Cl) 98, CO₂ 12 mEq/L, glucose 58 mg/dL, blood urea nitrogen (BUN) 19 mg/dL, and creatinine 1.2 mg/dL. Arterial blood gas pH was 7.24, and PCO₂ was 15 mm Hg. Serum ketone measured by ketosis strip showed a 3+ reaction. Urinalysis revealed pH 5.0, specific gravity 2.018, and no blood or protein. The patient responded well to fluid therapy. Following the correction of electrolyte abnormalities, his serum creatinine fell to 0.7 mg/dL, blood pH rose to 7.40, blood glucose was 105 mg/dL, and serum was free of ketones.