

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 53

Which of the following statements concerning the clinical laboratory manifestations of renal tubular acidosis (RTA) is false?

- a. Urine anion gap is positive
- b. Patients exhibit hyperchloremic metabolic acidosis with a normal serum anion gap
- c. Hypokalemia and nephrolithiasis/nephrocalcinosis are the main findings in proximal RTA type II
- d. Urine pH is >5.5 in classical type I distal RTA.

Patients with RTA exhibit a normal serum anion gap hyperchloremic metabolic acidosis associated with a positive urine anion gap (calculated from the equation: $\text{Na}^+ + \text{K}^+ - \text{Cl}^-$ in a random urine specimen) suggesting reduced NH_4^+ secretion.

In classic type I RTA, urine pH is persistently >5.5, reflecting the primary defect in distal acidification.

In type I RTA hypokalemia is very common and nephrolithiasis/nephrocalcinosis is one of the major complications of the disease. On the contrary, in proximal (type II) RTA skeletal abnormalities and osteomalakia are the most common manifestations due to chronic metabolic acidosis and vitamin D deficiency.

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Answer: Hypokalemia and nephrolithiasis/nephrocalcinosis are the main findings in proximal RTA type II