

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 40

A 40-year-old woman with profound muscle weakness and hypokalemia (serum potassium 2.6 mEq/L) was admitted to the clinic. Laboratory investigation was unremarkable, except from increased arterial pH (7.49) and serum bicarbonate levels (30 mEq/L).

Which further studies are necessary at this time?

- a. Determination of serum magnesium levels
- b. Determination of a spot urine potassium/creatinine ratio
- c. Determination of serum cortisol and aldosterone levels
- d. Determination of urine sodium and chloride levels
- e. a + c
- f. a + b

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2014, 31(1):110

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Comment

In cases of unexplained hypokalemia the evaluation of urinary potassium excretion is mandatory. It has been suggested that an urine potassium/creatinine ratio of >13 mEq/g creatinine in a spot urine sample is indicative of inappropriate potassium loss in patients with hypokalemia. Furthermore, serum magnesium levels should be measured in patients with hypokalemia, since hypomagnesemia of any cause can result in potassium depletion (due to both urinary and fecal losses) and resistant hypokalemia.

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Answer: Determination of serum magnesium levels and determination of a spot urine potassium/creatinine ratio
