

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 33

A 52-year-old woman treated with isoniazid, rifampicin and ethambutol for tuberculosis was admitted to the clinic with muscle weakness and hypokalemia (serum K^+ 2.9 mEq/L). Laboratory investigation showed: Na^+ 138 mEq/L, Cl^- 110 mEq/L, blood glucose 80 mg/dL, creatinine 1.2 mg/dL, uric acid 2 mg/dL, HCO_3^- 18 mEq/L, arterial pH 7.32. Urine examination showed glycosuria and proteinuria (2+).

Which is the most possible diagnosis?

- a. Hypokalemia due to isoniazid toxicity
- b. Pseudohypokalemia
- c. Hypokalemia associated with rifampicin-induced Fanconi syndrome
- d. Hypokalemia due to the underlying disorder (tuberculosis).

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2013, 30(4):499

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Comment

The patient exhibited hypokalemia associated with hyperchloremic metabolic acidosis with a normal anion gap (arterial pH 7.32, HCO_3^- 18 mEq/L, Cl^- 110 mEq/L and anion gap 10 mEq/L), hypouricemia and renal glycosuria, findings suggestive of Fanconi syndrome.

Acquired Fanconi syndrome is commonly due to drugs, such as ifosfamide, antiviral agents, aminoglycosides and cisplatin. However, other drugs, such as rifampicin or pamidronate, have recently been described as a potential cause of the syndrome. In contrast, neither isoniazid nor tuberculosis consist causes of Fanconi syndrome.

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Answer: Hypokalemia associated with rifampicin-induced Fanconi syndrome