

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 28

An 18-year-old man was admitted to the Internal Medicine Clinic with muscle weakness. Laboratory investigation showed: Serum Na⁺ 141 mEq/L, Cl⁻ 84 mEq/L, K⁺ 2.6 mEq/L, HCO₃⁻ 36 mEq/L, arterial pH 7.52. The following urine values were obtained: Sodium 70 mEq/L, potassium 88 mEq/L, chloride 110 mEq/L. Blood pressure was 120/80 mmHg.

Which is the cause of hypokalemia?

- a. Renal tubular acidosis (RTA)
- b. Gitelman syndrome
- c. Vomiting
- d. Primary mineralocorticoid excess

Comment

The patient's alkalemia excludes the diagnosis of RTA. The

ARCHIVES OF HELLENIC MEDICINE 2012, 29(6):758
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2012, 29(6):758

**F. Apostolou,
M. Elisaf**

*Department of Internal Medicine,
Medical School, University of Ioannina,
Ioannina, Greece*

patient presented with hypokalemia associated with inappropriate kaliuria and hypochloremic metabolic alkalosis. The differential diagnosis includes Gitelman syndrome (which is the case in this patient), primary mineralocorticoid excess (which can be excluded by the normal blood pressure) and vomiting (which can also be excluded, since urine chloride is greater than 40 mEq/L). It should be mentioned that urine chloride is helpful in the differential diagnosis of patients with unexplained metabolic alkalosis.

Corresponding author:

*M. Elisaf, Department of Internal Medicine, Medical School, University of Ioannina, GR-451 10 Ioannina, Greece
e-mail: egepi@cc.uoi.gr*