

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 32

Untreated patients with heart failure commonly exhibit:

- a. Normokalemia
- b. Hypokalemia due to secondary aldosteronism
- c. Hyperkalemia due to decreased potassium secretion

Comment

Most untreated patients with heart failure exhibit normokalemia despite the hypovolemia (effective circulating volume depletion)-induced activation of the renin-angiotensin-aldosterone system leading to increased potassium secretion. However, this effect on potassium secretion is counterbalanced by a reduced potassium secretion owing to a reduced distal flow and sodium delivery in

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the distal tubules. In fact, angiotensin II can increase both proximal and distal convoluted tubules sodium reabsorption resulting in diminished sodium delivery to the distal potassium secretory sites and reduced distal flow rate both of which can reduce potassium secretion.

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Answer: Normokalemia