Hyponatremia and heart failure: the overlooked piece of the puzzle

An 83-year-old woman was admitted to our hospital with complaints of dyspnea and bilateral lower extremity edema. The admission electrocardiogram showed atrial fibrillation with a heart rate of 80 beats/min. An echocardiogram showed a left ventricular ejection fraction of 50% and grade 3 diastolic dysfunction. The patient was initially continued on her outpatient medical regimen (aspirin, digoxin, irbesartan/hydrochlorothiazide, gliclazide, acarbose, and alendronate sodium), except for the fact that aspirin, gliclazide, acarbose, and digoxin were withheld and insulin, enoxaparin sodium, and intravenous furosemide were started. After her physical signs (edema, inspiratory crackles, and wheezing) and symptoms were resolved, she was discharged from the hospital on irbesartan/hydrochlorothiazide 150/12.5 mg 1×1, furosemide 40 mg 1×1, rivaroxaban 15 mg 1×1, metoprolol 50 mg 2×1, and insulin.

Three days after hospital discharge, she presented to the emergency department with malaise, fatigue, and slurred speech. Her initial vital signs were within normal limits. Laboratory results revealed 2 mg/dL of creatinine, 117 mmol/L of sodium, 5.8 mmol/L of potassium, 89 mmol/L of chloride, 8.9 mg/dL of calcium, 4.2 g/dL of albumin, and 256 mg/dL of glucose. The other calculated parameters were as follows: corrected serum sodium, 120.7 mmol/L; measured serum osmolality, 276 mOsm/kg (reference range 275–295 mOsm/kg); and effective serum osmolarity, 274 mOsm/kg. Her urine sodium concentration was 26 mmol/L and specific gravity was 1.011. Arterial blood gas analysis revealed pH of 7.407, $PaCO_2$ of 35 mm Hg, and $Pa0_2$ of 79.3 mm Hg.

What is the possible cause of hyponatremia, and how it should be treated?

a) Pseudohyponatremia, no treatment
b) Hypertonic hyponatremia, intravenous fluid therapy
c) Thiazide induced hyponatremia, cessation of drug
d) Drug induced hyponatremia+hypotonic hyponatremia, fluid restriction+drug cessation
e) Hypovolemic hyponatremia, intravenous fluid therapy

Answer: p. 1038

Address for Correspondence: Dr. Yavuzer Koza Atatürk Üniversitesi Tıp Fakültesi, Kardiyoloji Bölümü
Yakutiye, Erzurum -*Türkiye* Phone:+90 442 231 85 03 Fax:+90 442 236 13 01 E-mail: yavuzerkoza@hotmail.com
Accepted Date: 09.10.2015
©Copyright 2015 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com
DOI:10.5152/AnatolJCardiol.2015.6743