

BEST NOT SHAKEN - PNEUMATIC TUBE TRANSPORT, CLL, & HYPERKALEMIA Rebecca M. Smalley, Shelly Cook, Micah R. Chan, University of Wisconsin Hospital & Clinics, Madison, WI, USA.

Hyperkalemia is a potentially fatal condition that requires immediate medical attention. In the absence of an obvious cause (renal disease, overdose, rhabdomyolysis or tumor lysis syndrome) pseudohyperkalemia deserves consideration.

79 y/o M with CLL treated 5 days prior with cyclophosphamide, vincristine, rituximab and prednisone was admitted to the ICU with neutropenic sepsis. While his total WBC was 139 K/uL, 1% as segmented neutrophils. He was empirically treated with cefepime, ciprofloxacin and vancomycin until blood cultures revealed *E. coli* sensitive to cefepime. After stabilization, he was transferred out of the ICU. During his stay in the ICU his potassium was between 3.5 and 4.9 mmol/L. The following day at 1330, his potassium was 5.6 mmol/L. It was rechecked at 1900 and it was 6.5 mmol/L. He was given 30 mg of kayexalate orally. At 2200 his potassium was 6.0 mmol/L. The next day at 0500 his potassium was 6.4 mmol/L. At 1215, it was 7.1 mmol/L and there were no EKG changes. At this point a renal consult was obtained. Pertinent laboratory evaluation included WBC 136 K/uL, Hemoglobin 10.6 g/dL, Platelets 19 K/uL, Uric Acid 3.3 mg/dL, LDH 215 U/L, CK 11 U/L, Creatinine 1.0 mg/dL. Serum potassium measurements obtained from a peripherally inserted central catheter into a heparinized lithium vacutainer were compared to whole blood potassium levels from a radial arterial blood gas (heparinized, no lithium). The next morning 2 serum levels were obtained simultaneously, one was tubed and the other was walked down to the lab along with a whole blood potassium from an ABG.

Time	Specimen & Measurement	Potassium (mmol/L)
Day 1 1434	Serum vacutainer, tubed	5.8
Day 1 1505	ABG, <i>transported</i>	3.1
Day 2 0600	ABG, <i>transported</i>	3.2
Day 2 0700	Serum vacutainer, tubed	7.6
Day 2 0700	Serum vacutainer, walked	3.2

We believe that the etiology of this patient's pseudohyperkalemia was pneumatic transport in the setting of severe leukocytosis. This phenomenon has rarely been described in the literature.