

Title: Beyond Repletion: Refractory Hypokalemia and the Search for a Cause

Lead Author: Maya Sukkari (PGY-3, St. Francis Family Medicine Residency)

Abstract: Patients with hypokalemia present to the hospital in different ways. While some are symptomatic, for others the diagnosis is only incidentally found on lab work. Prompt repletion and determining the underlying etiology of hypokalemia is the basis of treatment and the prevention of future re-occurrence. This case report presents a 63 year-old male with a past medical history including metastatic small cell lung cancer, who was admitted with asymptomatic hypokalemia which proved to be refractory to repletion. On admission, the patient's potassium level was 1.7 which was attributed to GI losses in the context of several days of diarrhea. After 3 days of treatment by both oral and IV repletion of approximately 300mEq of K, the patient's potassium only increased to 2.6. His diarrhea resolved during the course of his hospital stay with the aid of antidiarrheals. Further evaluation was conducted, and renal wasting was ruled out with urine studies. Suspicion of an ectopic ACTH producing tumor originating from the patient's small cell carcinoma was investigated by the primary team and was confirmed after the patient's discharge. Although he subsequently received chemotherapy treatment with palliative intent, without curative treatment of his lung cancer the patient's hypokalemia persisted and led to re-admission. This report highlights the importance of determining an etiology of hypokalemia early on and to consider the breadth of causes in order to effectively provide treatment.