Hypokalemia Presenting as Acute Psychosis

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Sir,

Hypokalemia is an important entity in psychiatric patients which is easily identifiable and commonly missed. Hypokalemia is defined as plasma potassium concentration of less than 3.5 meq/l. It can be caused by redistribution of potassium between tissues and the extracellular fluid or by renal and nonrenal loss of potassium. Hypokalemia has prominent effects on cardiac, skeletal and intestinal muscle cells¹ and can also affect the nervous system. The neurological symptoms seen in hypokalemia are delirium, hallucinations, depression and rarely psychosis.²,³ Here we are reporting a very rare case of hypokalemia who presented as acute psychosis.

A fifty five years old gentleman presented to us with history of aggressive behavior and irrelevant talk since five days with no history of fever, headache, vomiting, loose motions, trauma to the head. He did not have any history of drug intake or starvation. He was conscious but not obeying verbal commands and was abusive towards his family members and the examiner. The routine blood examination revealed very low serum potassium level (1.5 meq/ml). Serum sodium level was 138 meq/l, serum calcium was 9 mg/dl, Serum magnesium level was 2 mg/dl, serum vitamin B12 level was 2000 pg/ml and Thyroid stimulating hormone level was 1.18 mIU/L. Electrocardiogram of the patient showed changes of hypokalemia with ST segment flattening in leads V1 to V4 and prominent U waves in V1 and V2. The connective tissue disease profile also came out to be negative. He was negative for antibodies to HIV-1 and HIV-2. VDRL test was also non-reactive. Magnetic resonance imaging of brain was normal. Cerebrospinal fluid analysis was also normal. The diagnosis of hypokalemia induced acute psychosis was made and patient was started on parenteral potassium therapy. The patient showed remarkable improvement in his symptoms parallel to the rise in serum potassium levels.

There were so many studies done showing low serum potassium levels in psychiatric patients but so far there has been no reported case of hypokalemia presenting as acute psychosis in a previously normal person without any past or family history of psychiatric illness which makes this case unique. A tubular vision to psychosis patients while ignoring organic and biochemical evidences can be detrimental for the patient.

References

1. Harrison’s principles of internal medicine volume 1 page 305.