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Rhabdomyolysis Associated with Mania in Late Life

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INTRODUCTION

We report a case of rhabdomyolysis associated with acute mania in a 74 year old man. What makes this case noteworthy is the development of multiple episodes of rhabdomyolysis in the context of excessive physical exercise in an old man who was never diagnosed with a psychiatric illness.

Rhabdomyolysis is a potentially fatal condition that follows skeletal muscle injury and can lead to serious complications such as renal failure (1) (2). Skeletal muscle injury, traumatic or non-traumatic, may trigger the release of intracellular contents including creatine phosphokinase (CPK) and myoglobin which is manifested by elevated serum CPK and myoglobinuria (1) (2). The classic triad of rhabdomyolysis is muscle pain, weakness and dark urine (1) (2).

In a study of 77 patients aged 21–85 years who developed rhabdomyolysis, 8 patients of unspecified age died (3). Delay in diagnosis and treatment of rhabdomyolysis may increase the risk of mortality (1) (2) therefore, early identification and intervention are crucial for a good outcome.

The prevalence of rhabdomyolysis is unknown and considered rare, however, descriptions are confined mostly to case reports (1) (2). The incidence of rhabdomyolysis in psychiatric patients is not known (1). Nevertheless, several risk factors make psychiatric patients more vulnerable to develop rhabdomyolysis and these factors include catatonia, agitation, alcohol abuse, and neuroleptic medications (1) (2) (4) (5).

THE CASE

Mr. A presented with one week history of elevated mood, decreased need for sleep, erratic financial decisions, increased goal oriented activities, and high energy with increased physical activity consisting of mountain biking for at least five hours at a time for three

consecutive days. A few days later, the patient complained of fatigue, general malaise, vague muscle pain and delirium and he was admitted to medical inpatient service for evaluation. He appeared circumstantial and labile and had pressured speech. Laboratory evaluation revealed high CPK at 3000 iu/l without troponin elevation, myoglobinuria, and high BUN at 32 mg/dl. Brain computed tomography was negative for acute pathology and it was consistent with age. He was successfully managed with hydration and his laboratory tests normalized within a few days.

While his cognition cleared, his mood symptoms did not improve after correction of dehydration. He was transferred to a psychiatric unit. There he was found to have grandiose delusions. He denied perceptual disturbances and appeared cognitively intact.

Collateral information revealed that he had had hypomanic periods throughout his life. He had a history of at least one major depressive episode. He had never been under psychiatric care or treated with psychotropics. However, Mr. A had had three episodes of rhabdomyolysis in the prior three years. These were attributed to excessive physical exercise, and all were treated symptomatically without sequelae. His medical history included hypertension, coronary artery disease, asthma and arthritis. He had no family history of psychiatric illness.

Mr. A met criteria for bipolar I disorder, most recent episode manic, severe with psychotic features in this admission (6). He responded well to valproate 500 mg twice a day with blood level of 78.8 mcg/ml and risperidone 1 mg twice a day without side effects. He was discharged to the care of a private psychiatrist.

DISCUSSION

To our knowledge, this is the second reported case of mania-induced rhabdomyolysis in late-life. The first reported case was a 67 year old man who was admitted for agitated behavior and profound overactivity (7). A prior diagnosis of bipolar disorder was not reported. He complained of malaise, muscle pain and darkening of his urine. He was found to have high serum CPK, myoglobinuria, elevated BUN and creatinine. He was treated with analgesics and intravenous fluids (7). The report does not mention subsequent treatment for mood disorder.

Rhabdomyolysis in patients with schizophrenia (2), alcohol abuse (5) or taking neuroleptic medications (2) has been reported in a number of studies and case reports. A literature search was conducted using database of PubMed, Ovid medline, Scopus and ScienceDirect for reports published between 1969 and 2008 on rhabdomyolysis in psychiatric patients and it did not identify cases of mania-induced rhabdomyolysis in young adults. However, physical activity and neuroleptic-induced benign CPK elevation has been described in a prospective study of 32 patients with ages ranging from 36–73 years (8); statistical analysis did not indicate significant association between age and CPK elevation (8).

Several factors may have contributed to prior failure to diagnose bipolar disorder in our case. Psychiatric symptoms may have been overlooked in the face of acute medical management. Interest in exercise may have been seen as healthy. Our case illustrates the transformation of milder bipolarity to type I with aging, though, changes in pattern of illness with aging may not be appreciated in primary care. However, when he received the appropriate diagnosis and treatment, he did well and tolerated the treatment.

In summary, this case and the previous report suggest that clinicians should be aware of the possibility of rhabdomyolysis in manic patients, including those who are elderly and may

have new onset mania. Also this case illustrates that rhabdomyolysis may recur when the mood disorder is not addressed.

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