

An Audit of Management of Patients Presenting with Exercise Induced Rhabdomyolysis

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Background

Exercise induced Rhabdomyolysis is a rare but potentially debilitating condition which can present a risk of permanently impaired renal function. There is some evidence for certain strategies for management of exercise induced rhabdomyolysis, however there is no consensual guideline within the trust.

Aims

In this study we aimed to retrospectively audit the management of patients that presented with exercise induced rhabdomyolysis in one tertiary centre.

Methods

We performed a retrospective audit of all patients presenting to the Acute Medical Ward in one tertiary centre with exercise induced rhabdomyolysis from 2013 to 2018. Data included patient demographics and an assessment of management including: amount and type of fluid used and instructions about alkalinisation of urine and measuring urine output. Biochemistry data (including creatinine and creatine kinase) were collected throughout admission.

Results

Between 2013 and 2018, 26 patients presented to one hospital with exercise induced rhabdomyolysis. 84.6% (n=22) were male and 15.4% (n=4) were female. The average patient age was 28.5 years (22-47). The mean creatinine at presentation was 147.5 μ mol/L (180-1347 μ mol/L). The average creatine kinase level at presentation was 46718U/L (69-172,160U/L). The average peak creatine kinase was 52739.9, and peak creatinine was 157.5 μ mol/L. 30.7% had an acute kidney injury on admission. Once admitted 15.4% of patients had specific plans in the ward round about alkalinising urine and administering sodium bicarbonate. 38.4% of patients had their urine output carefully monitored. 80.7% were solely managed with intravenous fluids, with 11.5% given intravenous sodium bicarbonate. 7.7% were managed in the high dependency unit with intravenous fluids and higher monitoring, with 7.7% requiring renal replacement therapy. The average discharge creatinine was 85.1 μ mol/L (66-111 μ mol/L). On discharge, 38.5% of patients had follow-up as an outpatient.

Discussion

Heterogeneity exists between the management of exercise induced rhabdomyolysis in our trust. We used our results to draft a pathway adopting a 'high-out, high-in' strategy with alkalinisation of the urine, to guide management of this condition.