

Is Spinning Safe? Exercise Induced Rhabdomyolysis

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Abstract

Spinning is a non-contact; popular Indoor based stationery cycling exercise. Regarded as safe, it is recommended for both genders and is most popular with the middle aged and in pregnant athletes. We present a case of spinning induced rhabdomyolysis to increase this potential side effect in those starting spinning.

Keywords: Spinning rhabdomyolysis; Nephrotoxic; Autoimmune

Introduction

Rhabdomyolysis occurs as result of damage to skeletal muscle. Nephrotoxic proteins (myoglobin) are produced. The triggering muscle damage may be due to high intensity physical activities, or influence by physical factors, dehydration or exposure cold. Rarely some have autoimmune and or hereditary condition making prone to rhabdomyolysis. Those with rhabdomyolysis present with variable symptoms including; gastrointestinal symptoms (nausea, vomiting), confusion, myalgia, and weakness. They may present with more significant conditions such as established acute kidney injury, compartment syndrome, disseminated intravascular coagulopathy or electrolyte disturbances [1-5]. Early identification and appropriate management in an emergency setting significantly reduces the morbidity and complications.

Case Report

This is a case report of a 22 year old, previously healthy (BMI 18.7 kg/m²) female athlete. Who presented to Emergency Department (ED) with leg myalgia, 4 days after attending a 50-minute spinning class, she reported right thigh swelling, and one day history of dark colored urine (Persisting after drinking 3 liters of water) clinical examination was unremarkable besides muscle tenderness and decreased mobility. There were no clinical signs of compartment syndrome. Full blood count and Urea and electrolytes were normal, Creatinine Phosphokinase (CK) was 142460 U/L (normal range 20-140 U/L), Aspartate Aminotransferase (ALT) 497 U/L (Normal range 0-34 U/L), Aspartate Aminotransferase (AST) 50 U/L (normal 10-40 U/L), plasma bicarbonate 31 mmol/L (normal range 22-28 mmol/L). Her venous lactate was 1.78 mmol/L. Urinalysis confirmed protein and "blood" with normal urine microscopy.

Management

She was managed with analgesia and intravenous fluids to maintain urine-output of 200-300 mL/hr. She did not require alkalinisation or renal replacement therapy. She was hospitalized under renal team for 4 days. On Discharge: CK 22402 U/L, ALT 497 U/L and no complications were reported in this case. Further outpatient investigation, ruled-out any other underlying conditions including autoimmune induced myositis and all serum values returned to normal limit within 6 weeks.

Conclusion

This is a case of spin-induced rhabdomyolysis in a previously well and fit patient. Spinning can be unsafe due to it increasing cause of rhabdomyolysis in the last decade [6-8]. Therefore it is important for the general athletic population and those starting spinning to be aware of this potential complication. Clinicians should be alert

for this condition even in previously healthy athletes and intervene early to reduce rhabdomyolysis, acute kidney injury, disseminated intravascular coagulopathy, prevent compartment syndrome or other significant complications [9,10].

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