Severe rhabdomyolysis caused by spinning

A case series

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Introduction

Spinning is a popular high-intensity training (HIT) exercise which is increasingly reported as a cause of rhabdomyolysis. We describe spinning-induced rhabdomyolysis in three women, two of whom required emergency bilateral fasciotomies for acute compartment syndrome (ACS). None had neurovascular compromise at the time, and all three had a good outcome.

Case 1

25/F

4 days after 1st spin class

Bilateral thigh pain

Urinalysis 4+ haematuria

CK 165 400 U/L

Resolved with IV fluids

Case 2

28/F

2 days after 1st spin class

Bilateral thigh pain

Unable to walk

Intact pulses + sensation

Tense + tender thigh muscles

Urinalysis 4+ haematuria

CK 609 700 U/L

Emergency bilateral fasciotomies

Case 3

25/F

1 day after 1st spin class

Bilateral severe thigh pain

Unable to walk

Anuria

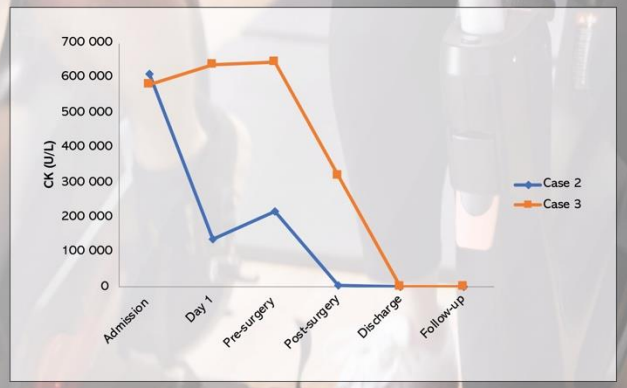
Intact pulses + sensation

Tense + tender thigh muscles

Urinalysis bland

CK 580 000 U/L

Emergency bilateral fasciotomies



Discussion

Exercise-induced rhabdomyolysis has been linked with spinning, and affects the anterior thigh muscle groups. The risk is higher in new spinning attendees with minimal prior experience. Consider occult metabolic myopathies in this young patient population. ACS is a surgical emergency leading to ischaemic tissue necrosis. **Definitive diagnosis is a clinical one.**

Red flags for metabolic myopathies
Exercise intolerance (dyspnoea, myalgia, fatigue) disproportionate to activity
Catastrophic exercise-induced rhabdomyolysis (renal failure or compartment syndrome)
Second wind phenomenon
Abnormal resting serum creatine kinase (CK)
History of myalgia precipitated by infection or fasting
Other system involvement (respiratory muscle weakness, cardiomyopathy, neurological symptoms)

Learning points

- Early involvement of an experienced surgeon leads to early intervention
- Compartment syndrome can be present without neurovascular compromise
- Be aware of red flags to consider metabolic myopathy
- The public and gym staff should be aware of risks to new spin class attendees.