

Shin Splints or Something Else? A Case of Chronic Exertional Compartment Syndrome

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Introduction

- Chronic Exertional Compartment Syndrome (CECS) is a condition where muscle swelling from increased post-exercise blood flow within a fascial compartment compresses neurovascular bundles, leading to ischemia, pain, and weakness.
- CECS may be considered a diagnosis of exclusion when evaluating lower extremity pain in young, healthy patients. (1) However, it is more common than normally thought. Incidence rate of CECS is reported to be as high as 33%. (2)

Case report

- A 36-year-old male, history of stress fracture of left tibia, obesity, papillary thyroid carcinoma s/p resection, presented with acute on chronic bilateral lower extremity pain worse when walking up an incline or walking with a quick cadence. Pain was described as severe "tightness" lasting up to 15 minutes, improved with rest, ice, ibuprofen, and ambulating backwards.

Physical Exam

- Prominent tibialis anterior and extensor digitorum longus bilaterally
- Tenderness over their respective muscle bellies
- No tenderness of the tibial shaft bilaterally
- Intact strength, sensation, and perfusion of bilateral lower extremities

Consider
Chronic Exertional Compartment Syndrome
as a diagnosis when evaluating
lower extremity pain.



Test and Results

- Same-day bilateral lower extremity arterial duplex study negative for arterial occlusion or ischemia.
- Bilateral tibia/fibula X-rays from 1 year prior negative for fractures or other acute pathologies

Follow up

- The patient was subsequently provided a home exercise program and referred for physical therapy to focus on eccentric strengthening and stretching exercises for reconditioning.
- Patient noted significant improvement following physical therapy and maintained home exercise program.

Discussion

- In addition to eccentric strengthening, forefoot strike running training has been shown to significantly reduce disability associated with CECS for up to 1 year after intervention. (3)
- There also exists research on gait retraining as a non-surgical treatment option for CECS in the context of Biomechanical Overload Syndrome. (2)
- It is important to differentiate CECS from more common diagnoses such as Medial Tibial Stress Syndrome (MTSS) in order to fashion an appropriate treatment plan sooner than later.

References

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