Leg Pain in a Female College Soccer Player

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HISTORY: 19-year-old female with a past medical history of right popliteal artery entrapment and ischemic right foot s/p surgical dissection presents with persistent right leg pain for two years. She has had extensive work-up and evaluations by various specialists for her symptoms. Initially was diagnosed with Raynaud's phenomenon and had rheumatologic work-up done which was negative. She was then referred to vascular surgery and diagnosed with right popliteal artery entrapment and complete occlusion. Urgent surgery was performed and she was found to have occluded right popliteal artery by adventitial cystic disease. Cystic tissue was removed and occlusion was dissected, normal perfusion was re-established to the leg.

For two years post-operatively, she continued to have intermittent, exertional right lower leg pain and underwent more vascular studies, which demonstrated normal arterial flow. She was referred to a foot and ankle specialist. Orthopedic surgeon diagnosed her with exertional compartment syndrome and referred to primary care sports medicine for compartment syndrome pressure testing, with plans to attempt fascial release.

On presentation to PCSM physician, she complains of right medial anterior leg pain as well as continued numbness and tingling on her right foot. Symptoms are present at rest but worsen with activity and running. Occasionally feels weak in her right foot. She has had to stop playing soccer for 2 years due to symptoms.

PHYSICAL EXAMINATION:

RIGHT LOWER EXTREMITY EXAM:
Skin: intact
Gait: antalgic
Standing alignment: normal
Knee exam: normal
Hip exam: normal
Calf: tenderness to medial edge of distal tibia. no tenderness when palpating gastrocnemius or lateral compartment.
Achilles: no deformity or defects, non-tender
Ankle: normal appearance. Normal strength in EHL, Peroneal muscles, anterior tibialis. Weakness of posterior tibialis.
Special testing: positive single heel raise. Negative squeeze test, anterior drawer test and talar tilt test.
Vascular: capillary refill < 2 sec, Dorsalis Pedis and Post. Tibial pulses intact.
Foot exam: pes planus

DIFFERENTIAL DIAGNOSIS:
Medial tibial stress syndrome
Tibial Stress Fracture
Popliteal Artery Entrapment

Exertional Compartment Syndrome
Osgood Schlatters
Posterior Tibial Tendon dysfunction

TESTS AND RESULTS:
Tibia / Fibula XR of right leg – no acute bony pathology
US Vascular PVR and ABI with treadmill: no evidence of arterial insufficiency
MSK U/S Right ankle – posterior tibialis tendon identified with fluid surrounding the tendon, minimal movement when attempted to activate the posterior tibialis.

FINAL/WORKING DIAGNOSIS:
Posterior Tibial Tendon dysfunction

TREATMENT AND OUTCOMES:
Ultrasound guided hydrodissection of posterior tibial tendon sheath using Lidocaine 1% 2ML, Bupivicaine 0.5% 2ML, Kenalog 40 mg/ml 2ML. She was placed in a walking boot for 6 weeks, and to come out of boot daily for walking. She underwent 6 weeks of physical therapy. 100% relief of symptoms at rest and with running immediately following injection and at 4 week follow up.