Os Trigonum and Posterior Impingement Syndrome in a College Football Defensive Back: A Case Report and Management Strategies

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Abstract: Objective: To identify the pathology and associated signs and symptoms of posterior impingement/os trigonum syndrome as apply contemporary management strategies for continued play. Background: A 22 year old Division III football player suffered an inversion ankle injury. The athlete's primary complaint was posterolateral ankle pain. Passive plantarflexion with inversion and eversion were positive and x-rays revealed a fracture to the os trigonum. Differential Diagnosis: Os supercalcaneum, posteromedial talar facet fracture (PMTFF), retrocalcaneal bursitis, achilles tendinosus, posterior tibialis tendonitis, peroneal tendonitis, flexor hallucis tendinosus, osteochondritis dissicans. Treatment: The athlete underwent conservative rehabilitation, consisting of strengthening, stretching, and neuromuscular training. Persistent pain, especially upon deceleration and cutting continued upon return to participation, though alleviated to a degree with specialized ankle taping. He received one injection of lidocaine and depo-medrol. Following the season, the os trigonum was surgically excised. Non weight bearing crutching was utilized for one week, followed by the use of a cam walker for three subsequent weeks. Rehabilitation consisted of range of motion and strength exercises. Uniqueness: Symptoms associated with os trigonum pathology can present initially as typical ankle sprains, but do not resolve in the typical manner of such injuries. Posterior pain associated with plantarflexion and

inversion/eversion help to distinguish os trigonum pathology from a typical ankle sprain. This athlete's signs of an inversion ankle sprain resolved, but posterior pain persisted. In addition this athlete suffered the same type of injury the following season to the other ankle. Bilateral os trigonum/posterior impingement is uncommon and adds an additional unique feature to this case. Conclusions: Posterior impingement/os trigonum syndromes are likely more prevalent than currently diagnosed. It can cause significant disability and performance impairment. X-rays may be indicated when passive plantarflexion with inversion and eversion (Whedon Test) illicits pain. While relatively simple to manage, recurrence of pain and disability may persist. Surgical intervention is both simple and effective.

Key Words: Os Trigonum, Posterior Impingement Syndrome, Ankle Injury