Lower Tibial Pain in an Adult Male Distance Runner

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Background: The patient is a twenty-six year old male distance runner training for a marathon. He reports no past medical history of lower leg dysfunction. His training regimen consisted of approximately forty miles per week at the time of injury. At onset, the patient reported only right lower leg edema after activity. He initiated self-care for this edema in the form of ice and elevation over the course of two weeks. The patient then reported onset of pain associated with lower extremity elevation. He continued to self-treat the injury using cryotherapy, but discontinued elevation due to an increase in pain. The patient also underwent a period of self-imposed inactivity secondary to discomfort. After no resolution of the pain and swelling occurred with self-treatment, the patient was assessed in the clinic and treatment of ultrasound, high voltage stimulation, ice massage and anti-inflammatory medication was initiated. When symptoms failed to resolve with treatment and rest, the patient was referred to an orthopedist for consultation. Differential Diagnosis: Differential diagnosis in this patient include ruling out: medial tibial stress syndrome, tibial stress fracture, bone tumor, bone cyst, and gout. Treatment: The orthopedist ordered plain radiographs which revealed a walnut-sized cavity in the distal tibia diaphysis. The patient was then referred magnetic resonance imaging which confirmed the findings of the plain radiographs. The cavity was biopsied to rule out bone cancer. During the biopsy, approximately 70cc of pus was removed from the cavity, resulting in immediate relief of pain in the patient. The patient’s final diagnosis was sub-acute osteomyelitis or Brodie’s Abscess. The patient was started on intravenous antibiotics and scheduled for a surgical debridement of the abscess. Surgical intervention involved removing a two-inch window of bone from the anterior tibia, debriding of the abscess and irrigating the wound with saline. Next, calcium sulfate beads, mixed with tobramycin, were placed into the cavity to allow for appropriate healing. The cortical bone window was then replaced in order to cover the cavity. The patient underwent a period of six weeks of non-weight bearing gait in a cam boot to allow for proper bony recovery. Follow-up plain radiographs were taken at one, four and six weeks post-operative procedure to assess bony healing. Uniqueness: Sub-acute osteomyelitis is difficult to diagnose due to its insidious onset, mild symptomology and absence of the classical signs and symptoms of acute bone disease. Brodie’s Abscess, a rare orthopedic condition, is most commonly observed in males between the ages of two and fifteen years. The condition most commonly occurs at the epiphyseal plates of long bones. Conclusion: At this time, the patient is demonstrating good bone healing and is progressing toward weight bearing activity.

This case will be updated prior to presentation at the Eastern Athletic Trainers’ Association meeting in January 2008.