Femoral Osteomyelitis in an Adolescent Athlete Requiring Surgical Intervention
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**Background:** 12-year-old male lacrosse player reported to the emergency room complaining of left hip pain following strenuous workout at camp. Pain localized in lateral proximal femur with no groin pain and relieved by NSAID use. No prior history of hip pain or family history of slipped capital femoral epiphysis. Athlete presented with waxing/waning abdominal pain in upper right quadrant, nausea, vomiting, diarrhea, and fever of 103.1°F. Also presented with fatigue and poor appetite with no weight loss. No joint swelling or edema, muscle weakness, rashes or wounds in the area. Left lower extremity exam revealed point tenderness over left greater trochanter, negative straight leg raise, all ROM within normal limits without pain except internal rotation aggravated greater trochanter pain mildly. X-rays of pelvis/bilateral hips showed no obvious fractures. Athlete received diagnosis of left greater trochanteric bursitis. The next day, tenderness traveled to the left lateral proximal femoral cortex and ITB. An MRI was performed of left hip to rule out pelvic collection. Recent travel to Belize and Turkey led to suspicion of hepatitis due to unknown status of hepatitis A vaccine. **Differential Diagnosis:** Left greater trochanteric bursitis, low suspicion of toxic bursitis but not excluded, hepatitis, pelvic collection. **Treatment:** Upon further testing, athlete was diagnosed with osteomyelitis of left proximal femur. PICC line inserted for antibiotics. Athlete reported for treatment 2 weeks S/P 4-inch incision and drainage of abscesses in left thigh. Pain level 2/10 with jogging and reports weakness and feeling the left leg won’t support him. PROM of knee flexion supine and prone are within normal limits bilaterally, knee extension 0° bilaterally. AROM of popliteal angle left 42°, right 40°, knee flexion supine left 148°, right 142°, knee flexion prone left 45°, right 44°, knee extension 0° bilaterally. MMT on right leg 4+/5 for hip extension, hip flexion, knee extension at 0°, and knee flexion, 5/5 for knee extension at 45° and dorsiflexion. Able to do more than ten calf raises, testing plantar flexion. MMT on left leg 4-/5 for hip extension, knee flexion, and dorsiflexion, 4/5 hip flexion and knee extension at 0° and 45°, and 2/5 hip abduction. Able to perform four calf raises on left leg with lateral trunk lean to the left. Balance deficits and altered gait found in left leg causing left lateral trunk lean to compensate. Athlete given home exercise program consisting of hamstring, piriformis, and quadriceps stretching, supine straight leg raise, prone hip extension, and supine hip abduction. Beginning treatment focused on strengthening hip motions and balance control. As the athlete progressed, treatment included agility, power and plyometric exercises. Athlete returned to full sports participation with continuation of a home exercise program eleven weeks after beginning treatment. **Uniqueness:** Osteomyelitis is found in 1 in 5000 people. The infection usually appears after trauma or fractures in children from bacteria entering the body via a wound or infection near the bone. In this case, the direct cause was unknown and osteomyelitis was not expected. **Conclusions:** Osteomyelitis is inflammation of bone and bone marrow that is caused by bacteria. Osteomyelitis is usually found after injury though some cases present with no obvious causes. This can lead to clinicians prematurely ruling out osteomyelitis, which is a concern due to the negative side effects. Pus is produced within the bone resulting in an abscess that deprives the bone of its blood supply leading to necrosis and chronic
osteomyelitis, which can persist intermittently for years. Athletic trainers should not overlook osteomyelitis when an athlete presents with an injury and serious illness simultaneously. Immediate attention, proper care and antibiotics can prevent permanent damage and prolonged rehabilitation. **Word Count:** 597 words