Madelung’s Deformity in a Female Athlete: Case Report
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**Background:** We present the case of a 19 year old female collegiate competitive cheerleader with bilateral wrist pain. The athlete’s past medical history revealed a surgical procedure at age 12 to correct a rare wrist deformation known as Madelung’s deformity. Although the athlete presented in this case has a bilateral deformation, surgical intervention was required for her left wrist to reduce symptoms. Madelung’s deformity is an uncommon congenital condition, presenting with a bayonet-like appearance from the forearm to the carpal bones of the wrist usually observed in adolescent girls aging from 6-14 years of age. Post-surgery continual athletic activities led to chronic pain in the athlete’s left wrist, exacerbated by repetitive strenuous positions. To compensate for pain, the athlete favored her non-dominant wrist in athletic activity. However, due to the athlete compensating, the pain increased. **Differential Diagnosis:** Smith’s fracture, Barton’s fracture, Type one Physis plate fracture of the distal radius, ulnar impaction syndrome, scapholunate dislocation, carpal collapse, ganglion cyst, or congenital skeletal defect such as Turner syndrome, Leri-Weil dyschondrosteosis, or idiopathic short stature. **Treatment:** Surgery was performed to decrease ulnar angulation caused by a deceleration of the distal ephyseal growth plate in the athlete’s left radius. Post-surgery involved the athlete participating in outpatient therapy to increase her range of motion and she was provided with a volar splint for her left wrist, wearing as needed to decrease her symptoms. Upon entering the collegiate level, the athletic training staff provided the athlete with hands-on rehabilitative techniques such as joint mobilization, massage, and other manual therapies to help decrease pain symptoms and increase the range of motion in both wrists. **Uniqueness:** Madelung’s deformity is an uncommon wrist injury found more in adolescent females. At age 12 this athlete required a surgical procedure that allowed her to achieve greater range of motion and decreased the pain of her left wrist. Conservatively the athletic training staff was able to manage the athlete’s symptoms through rehabilitative exercise and manual therapy. The athlete is now 21 years of age and actively participates in a competitive collegiate cheerleading squad with minimal bilateral wrist pain. The athlete does have each wrist taped prior to athletic participation with a preference of limiting wrist extension due to the changes in the radio-ulnar articulation and the decrease of forearm rotation. **Conclusion:** Madelung’s deformity presents as an uncommon congenital deformation of the wrist in which it is characterized by shortening and curvature of the radius, an alteration of the radio-ulnar articulation, and a triangular arrangement or pyramidization of the carpal bones. Although surgical intervention was required to alleviate some of the symptoms of this athlete, several precautions were taken by the athletic training staff to prevent further injury due to a decrease in the normal range of motion of the athletes’ wrist, as well as, managing her compensation of the non-dominant right wrist. **Word Count:** 476