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Visual Diagnosis in Emergency Medicine

WHEN REST, ICE, COMPRESSION, AND ELEVATION FAIL: A CASE OF CHRONIC WRIST PAIN

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CASE REPORT

A 26-year-old man, without previous medical history, presented to the Emergency Department with the chief complaint of chronic right wrist pain. The man reported his pain as atraumatic, beginning 3 months prior, and persistently exacerbated by weight lifting. Review of systems was unremarkable. History of present illness was significant for a previous interaction with a health care provider who advised rest, ice, compression, elevation, and ibuprofen for an acute wrist strain. Upon evaluation, the right upper extremity was neurovascularly intact. The patient experienced pain with active and passive wrist flexion, extension, and ulnar deviation, and tenderness was noted at the dorsal aspect of the radiocarpal joint. Vital signs were within normal limits. Given the chronicity of the patient's symptoms, and the failure of outpatient therapy, a radiograph was obtained (Figure 1).

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DISCUSSION

Kienböck's Disease

Radiograph of the right wrist revealed sclerosis, irregularity, and collapse of the lunate, consistent with avascular necrosis. The patient was referred for outpatient magnetic resonance imaging (Figure 2), and to Orthopedics for management. Kienböck's disease typically presents in

Figure 1. Right wrist radiograph demonstrating sclerosis, irregularity, and collapse of the lunate.

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Figure 2. Magnetic resonance image revealing avascular necrosis of the right lunate.

the dominant wrist between the ages of 20 and 40 years, and exhibits a 2:1 male-to-female predominance (1–3). Risk factors include anatomic variation of the ulna (eg, negative ulnar variation in which the ulna is anatomically shortened in comparison with the radius, thereby increasing carpal instability), aberrant vascular supply to the lunate, and acute or repetitive trauma (1–5). Patients frequently report persistent dorsal wrist pain, and exhibit tenderness to palpation of the lunate upon examination (1,2). Although Kienböck's disease may be diagnosed via radiograph, magnetic resonance imaging or computed tomography are recommended for staging purposes (conservative therapy vs operative management) (1–5). Retrospective case series have demonstrated median time from symptom onset to an imaging diagnosis of Keinböck's disease as 9 months (6). Failure to identify avascular necrosis of the lunate often results in synovitis and inflammation, the complications of which may include limited wrist range of motion, decreased grip strength, and carpal tunnel syndrome (1,6–8). The patient in this case required an operative procedure for revascularization.

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