Ulnar-Sided Wrist Pain in the Athlete

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KEYWORDS

• Ulnar-sided wrist pain • Triangular fibrocartilage complex • Hamate fracture • Pisiform
• Hypothenar hammer • Ulnocarpal impaction syndrome • Lunotriquetral ligament tear
• Extensor carpi ulnaris tendinitis

KEY POINTS

- The athlete can present an interesting clinical challenge due to the overlap between acute injury and susceptibility to overuse phenomena from repetitive activities experienced during athletic pursuit.
- Although most of the entities described in this section are found among all patient groups, their treatment may differ in an athlete due to sport-specific considerations, temporal restraints, and outside influences on the athlete (coaching staff/trainers/recruiters).
- Thoughtful consideration of all of these factors will lead to a more satisfying outcome for the athlete with a goal of a safe and expedient return to sports activities.

INTRODUCTION

Management of hand and wrist injuries in the athlete can be a challenge and requires a good assessment of sport-specific athletic demands and the degree of impairment incurred by the athlete. Conservative management consisting of splints, medications, and therapy is beneficial in many cases; however, more definitive intervention is sometimes necessary to alleviate pain and preserve athletic function. The focus of this section is common ulnar-sided wrist conditions and injuries sustained in athletes. Many of the conditions outlined in this article can present as a result of participation in a variety of sports and occupational pursuits and as a normal consequence of physical training. Successful management often requires a thoughtful blending of treatment modalities for this unique class of patients.

HOOK OF HAMATE FRACTURES

Although hamate hook fractures represent only 2% to 4% of all carpal fractures, they are frequently seen in racket sports as well as golf, baseball, and hockey.[1–3] Hamate hook fractures are thought to be caused from a direct blow sometimes seen after grounding a golf club or during a check swing in baseball (Fig. 1). These fractures can be further subdivided by identifying them as tip, waist, or body fractures. Hamate fractures are notoriously poor healers with waist and tip fractures progressing to nonunion most commonly secondary to poor vascularity.[4,5] Because these injuries may be difficult to diagnose, hamate hook fractures must be suspected in athletes with ulnar-sided wrist pain competing in racquet or club sports.

Examination Findings

Patients may complain of pain over the hypothenar eminence and hamate hook and pain with resisted flexion of ring and small finger. In chronic cases, ulnar nerve dysfunction or crepitus with ring and small finer motion may be detected.

Imaging

Radiographic visualization of a hamate hook fracture can be difficult even with oblique and carpal tunnel views. Computed tomography

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Fig. 1. Location of the hook of the hamate (H) relative to a bat end in the nondominant left hand of a right-handed hitter. (*From* Walsh JJ IV, Bishop AT. Diagnosis and management of hamate hook fractures. Hand Clin 2000;16(3):397–403; with permission.)

(CT) is the image modality of choice when a hamate hook fracture is suspected[1] (Fig. 2).

Treatment

Although acute nondisplaced fractures can be managed with cast immobilization, athletes should be counseled regarding the poor healing rate and prolonged immobilization, and that even after lengthy immobilization, they may still require surgery. Most investigators recommend fracture excision for displaced or nonunited fractures. Excision has been shown to have no adverse effect on grip strength or wrist range of motion.[2,4–7] Complications of hook of hamate fractures can include ulnar neuritis, flexor tendon irritation and rupture, ulnar artery thrombosis, and most commonly, symptomatic nonunion.[2]

PISIFORM FRACTURES

In athletes, pisiform fractures commonly occur from a direct blow. A more rare mechanism is

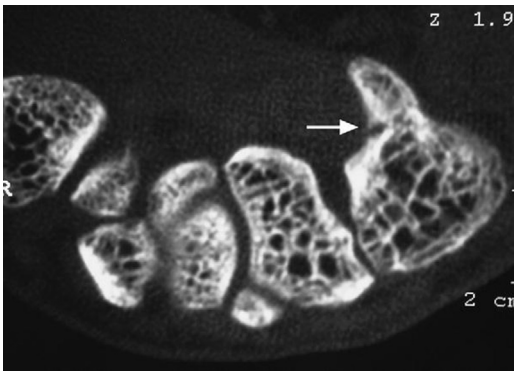

Fig. 2. CT scan visualization of fracture at the base of the hook of hamate with a large fracture fragment (*arrow*). (*From* Woon CYL, Lee JYL, Teoh LC. Attritional rupture of the small finger flexor tendons following local steroid injections of a hook of hamate fracture. Injury Extra 2007;38:200; with permission.)

an avulsion fracture from a sudden contraction of the flexor carpi ulnaris, which surrounds the pisiform.[2,8] Pisiform fractures make up about 2% of carpal fractures and are usually described as parasagittal, transverse, comminuted, and pisiform-triquetral impaction fractures.

Examination Findings

Presenting symptoms usually include pain directly over the pisiform or hypothenar eminence along with occasional ulnar nerve irritation.

Imaging

Visualizing the fracture on plain radiographs is difficult, but a 30° supinated view, 45° supinated oblique view, carpal tunnel view, or a CT scan may be necessary[2,8] (Fig. 3).

Treatment

Nondisplaced fractures typically heal with cast immobilization. Displaced and comminuted fractures are typically treated with pisiform excision with reliable pain relief and no loss of motion.

HYPOTHENAR HAMMER SYNDROME

Hypothenar hammer syndrome (HHS) is a vascular phenomenon that results typically from repetitive blunt trauma to the hypothenar hand where the relatively unprotected ulnar artery remains superficial as it exits Guyon canal. Although HHS has classically been described in the dominant hand of middle-aged male workers who habitually use the ulnar palm as a tool to hammer objects, it has also been reported in athletes participating in a variety of sports, including baseball, golf, tennis, biking,