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Lateral Epicondylitis
Common Extensor Tear of Elbow

Patrick Graham

Introduction

The lateral epicondyle is a bony prominence of the elbow that serves as the origin for the common wrist and digit extensors. Lateral epicondylitis generally refers to pain associated with the myotendinous junction of the lateral elbow, which may otherwise be noted as an elbow tendinopathy, tendonitis, epicondylalgia, or, more commonly, as "tennis elbow." Upon advanced imaging, there are varying degrees of tendinosis, with or without associated tearing or bony inflammation, which lends to the subacute or chronic nature of the condition itself (Jayanthi, 2018; Lai, Erickson, Mlynarek, & Wang, 2018; O'Connor, 2018).

Incidence of lateral epicondylitis is estimated between 1% and 3% in the general population, with risk factors including obesity and smoking, as well as occupation or leisure activities that require repetitive motions, gripping, or forceful loading of the elbow. The dominant hand is the most commonly affected. Symptoms, which are classically subacute or chronic, range from mild to severe, with potential to cause significant dysfunction of the affected extremity. This is initially associated with activities but can progress to more constant symptoms when not addressed. There may be associated swelling about the lateral elbow and radiating forearm pain. Tennis is the most commonly associated sport and sports-related injury, thus the moniker in the lay public (Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018).

Case Presentation

A 68-year-old, right-hand-dominant manicurist presented with 4 months of gradually worsening right elbow and forearm pain. She denied any injury or incident. This started as intermittent aches, typically of the lateral and posterior elbow, that would come and go, nothing that lasted more than an hour. Her symptoms gradually worsened to daily pains, lasting well into the evening after a day of work. The dexterous nature of her work continued to aggravate things and, ultimately, after a week of significantly increased symptoms, ended up taking time off to rest and had an evaluation with her primary care provider. Radiographs of the right elbow were obtained by the primary care physician, and outside of subtle mineralization at the triceps insertion was noted to be normal (see Figure 1).

The primary care provider recommended continued rest, gentle stretching, and a course of anti-inflammatory medication (Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018; Sims, Miller, Elfar, & Hammert, 2014). The patient reported she was diligent about taking the medication for "a few days" and then would take intermittently as dictated by her pain. Her symptoms steadily alleviated over the course of the next week and she returned to work. When she returned to work, so did her symptoms, this time with a significant level of discomfort by her second day of working. She went to an urgent care with severe aching and throbbing elbow pains and was again instructed on conservative management. Four days later, with symptoms minimally alleviated, she presented to this orthopaedic nurse practitioner for further evaluation.

Upon presentation was an overweight, affect-appropriate female in no apparent distress. She postured holding the right elbow in 90° of flexion, shoulder internally rotated with forearm across her abdomen. There was mild swelling about the lateral elbow with fullness of the posterior compartment of the forearm. Compartments were otherwise soft and compressible without pain. There was no discoloration or abnormal warmth. She reported focal tenderness at the lateral epicondyle, extending into the extensor muscles. Elbow range of motion was grossly equal and found to be stable with varus and valgus stress. Wrist extensor and grip strength was limited by complaints of pain. She performed coordinated opposition and was found to be distally neurovascularly intact. She displayed a positive Cozen's test with negative Tinel's and Spurling tests. The previously obtained elbow radiographs were personally reviewed.

Management

Given the previously reported improvement with rest and anti-inflammatory medications, the patient was instructed to resume a regimen of naproxen, was referred to physical therapy, fitted for a forearm compression/tennis elbow strap, and given work restrictions

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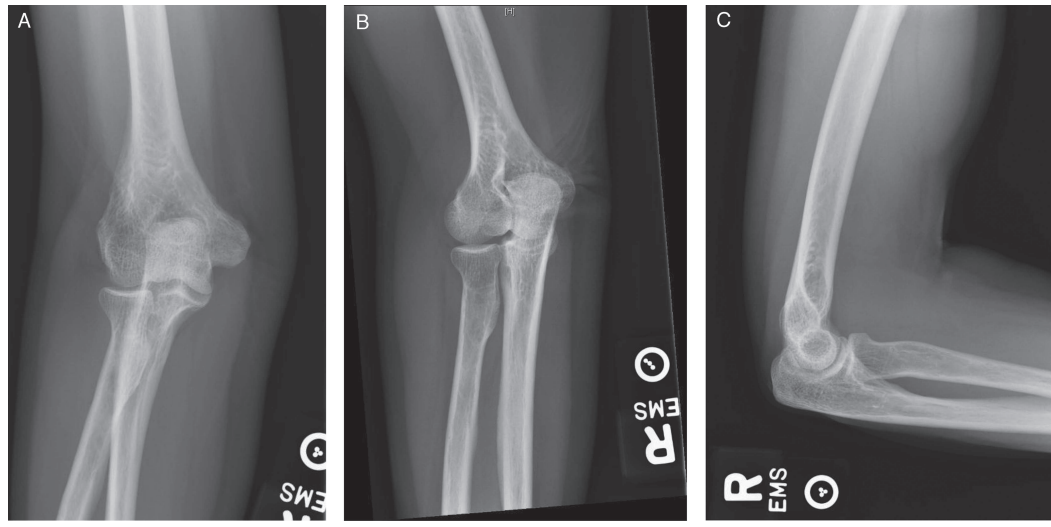

FIGURE 1. Anteroposterior, oblique, and lateral radiographs of the right elbow—Subtle mineralization about the triceps insertion is noted. Otherwise normal radiographs.

(Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018; Sims et al., 2014; Struijs, Kerkhoffs, Assendelft, & Van Dijk, 2004). Given her line of work, her employer was unable to accommodate restrictions and so she took a couple of additional weeks off, again noting significant improvement in that time. Unfortunately, when she returned to work a couple weeks later, there was a near immediate return of symptoms.

Upon follow-up was mild swelling with continued tenderness overlying the lateral epicondyle and associated extensor tendons. At this juncture was discussed options for injections versus obtaining magnetic resonance imaging (MRI) for confirmation of diagnosis. Given her apprehension, as well as her concern that something more sinister was going on with the elbow, the patient elected for MRI, which made evident the extensive nature of common extensor tendon tearing and associated inflammation (see Figure 2; Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018; Sims et al., 2014).

Discussion

Lateral epicondylitis is a common cause of subacute or chronic elbow pain and should be a leading differential for any patient who does repetitive gripping or loading of the elbow for work or during leisure activities. Care should be taken in examining the patient to differentiate from other elbow issues such as arthritis, bursitis, underlying ligamentous instability, or other common tendinopathies, that is, triceps or biceps tendonitis. Patients will typically present with weeks to months of "nagging" symptoms and have focal tenderness overlying the lateral epicondyle. There is associated pain noted upon gripping or resisted wrist extension (Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018; Sims et al., 2014).

The advanced practice provider plays an integral part in facilitating the most common conservative treatments of lateral epicondylitis: prescription anti-inflammatories, bracing, facilitating referral to physical therapy, and consideration of options for injections.

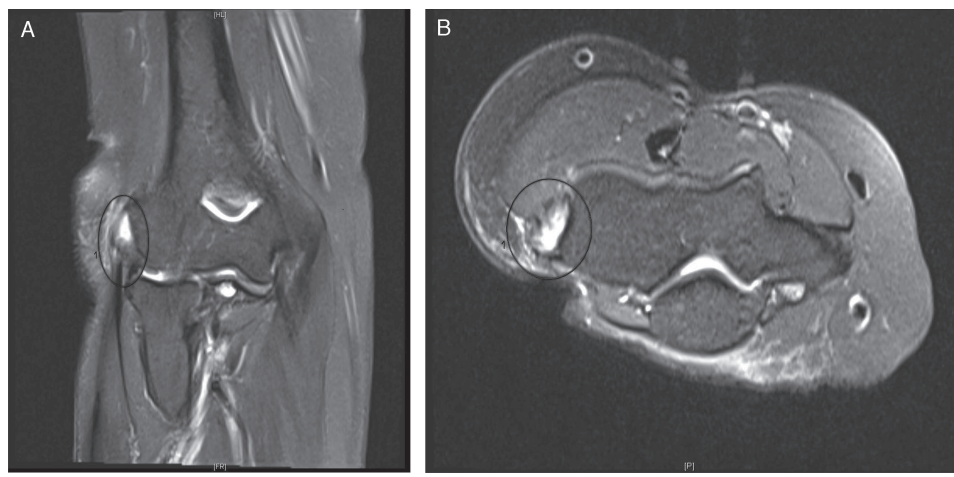

FIGURE 2. Coronal and axial T2 with fat suppression—Ellipse denotes tear of common extensor from origin at the lateral epicondyle. There is surrounding soft tissue edema/inflammation.

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Although there is currently no consensus in the literature as to the optimal intervention, with some reporting no statistical significance over placebo, the currently recommended injectable options include prolotherapy, autologous blood products, platelet-rich plasma (PRP), corticosteroids, and botulinum toxin. The clinical decision is confounded by the most recent randomized trials that have reported better outcomes in short-term pain relief with the use of corticosteroids but better long-term outcomes with use of autologous blood and PRP. This highlights the importance of weighing the intended effect of these various interventions, their associated risks, and the ultimate goals of treatment with each patient (Hart, 2011; Houck, Kraeutler, Thornton, McCarty, & Bravman, 2019; Sims et al., 2014; Wang, Mackie, Breidahl, Wang, & Zheng, 2015; Wolf, Ozer, Scott, Gordon, & Williams, 2011).

For those who fail all conservative management, which is defined as having persistent symptoms for a year despite interventions as discussed earlier, the most appropriate course is referral to a sports medicine or elbow specialist for consideration of surgical intervention. Both open and arthroscopic surgeries have proved successful, with no specific technique showing superiority (Jayanthi, 2018; Lai et al., 2018; O'Connor, 2018).

References

Hart, L. (2011). Corticosteroid and other injections in the management of tendinopathies: A review. *Clinical Journal of Sports Medicine*, *21*(6), 540–541.

Houck, D. A., Kraeutler, M. J., Thornton, L. B., McCarty, E. C., & Bravman, J. T. (2019). Treatment of lateral epicondylitis with autologous blood, platelet-rich plasma, or corticosteroid injections: A systemic review of overlapping meta-analyses. *Orthopaedic Journal of Sports Medicine*, *7*(3). doi:10.1177/2325967119831052

Jayanthi, N. (2018). Epicondylitis (tennis and golf elbow). *UpToDate*. Retrieved from https://www.uptodate.com/contents/epicondylitis-tennis-and-golf-elbow?search=lateral%20epicondylitis&source=search_result&selectedTitle=1~19&usage_type=default&display_rank=1

Lai, W. C., Erickson, B. J., Mlynarek, R. A., & Wang, D. (2018). Chronic lateral epicondylitis: Challenges and solutions. *Open Access Journal of Sports Medicine*, *9*, 243–251.

O'Connor, F. G. (2018). Evaluation of elbow pain in adults. *UpToDate*. Retrieved from https://www.uptodate.com/contents/evaluation-of-elbow-pain-in-adults?search=lateral%20epicondylitis&source=search_result&selectedTitle=2~19&usage_type=default&display_rank=2

Sims, S. E., Miller, K., Elfar, J. C., & Hammert, W. C. (2014). Non-surgical treatment of lateral epicondylitis: A systematic review of randomized controlled trials. *Hand*, *9*(4), 419–446.

Struijs, P. A., Kerkhoffs, G. M., Assendelft, W. J., & Van Dijk, C. N. (2004). Conservative treatment of lateral epicondylitis: brace versus physical therapy or a combination of both—A randomized clinical trial. *The American Journal of Sports Medicine*, *32*(2), 462–469.

Wang, A., Mackie, K., Breidahl, W., Wang, T., & Zheng, M. H. (2015). Evidence for the durability of autologous tenocyte injection for the treatment of chronic resistant lateral epicondylitis: Mean 4.5-year clinical follow-up. *The American Journal of Sports Medicine*, *43*(7), 1775–1783.

Wolf, J. M., Ozer, K., Scott, F., Gordon, M. J., & Williams, A. E. (2011). Comparison of autologous blood, corticosteroid, and saline injection in the treatment of lateral epicondylitis: A prospective, randomized, controlled multicenter study. *The Journal of Hand Surgery*, *36*(8), 1269–1272.

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