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Visual Case Discussion

Flexor tenosynovitis in an intravenous drug user

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A 37-year-old male presented to the Emergency Department with two days of progressively worsening left hand and arm pain. The patient's medical history was significant for intravenous heroin use, with recent injection into his left hand and forearm. Physical exam revealed that his left hand was diffusely tender and erythematous with tenderness and swelling ascending proximally up the left arm. Fingers were diffusely swollen and held in passive flexion, as seen in Fig. 1. There was significant pain on palpation of the palmar surface and during both passive and active extension. The radial pulse was intact and capillary refill was less than three seconds in all fingers. There were bilateral track marks diffusely in the upper extremities but no other areas concerning for ulceration, abscess, or cellulitis. The patient had a fever of 102.3 F. The remainder of the physical exam and vital signs were within normal limits. The white blood cell count was 18.0 × 109/l. The rest of the complete blood count, chemistry panel, lactate, and other laboratory values were unremarkable. The patient was started on vancomycin and unasyn for suspected flexor tenosynovitis. Hand surgery was consulted and the patient was taken to the operating room for open irrigation and debridement which confirmed suppurative tenosynovitis. The patient was hospitalized for continued IV antibiotics and wound management. However, he left the hospital against medical advice on post operative day #2. Initial microbial testing (Gram stain) was consistent with a polymicrobial infection but specific culture data was not obtainable by us. Unfortunately, the patient was lost to follow up and could not be followed to resolution. Flexor tenosynovitis is often difficult to diagnose early in the disease process. However, it rapidly progresses and has a high morbidity, even with aggressive treatment. It is therefore considered a surgical emergency and clinicians should have a low index of suspicion and a low threshold for evaluation by a hand surgeon.[1,2]

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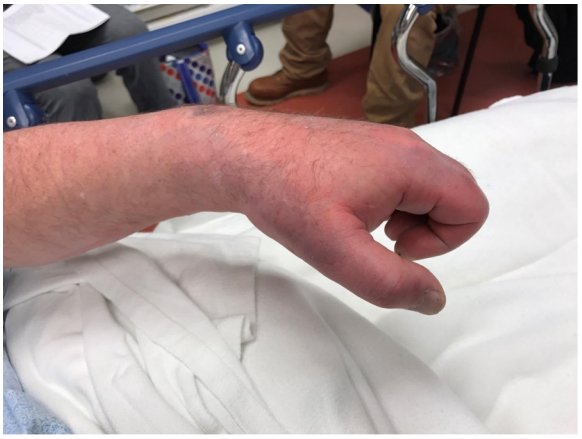

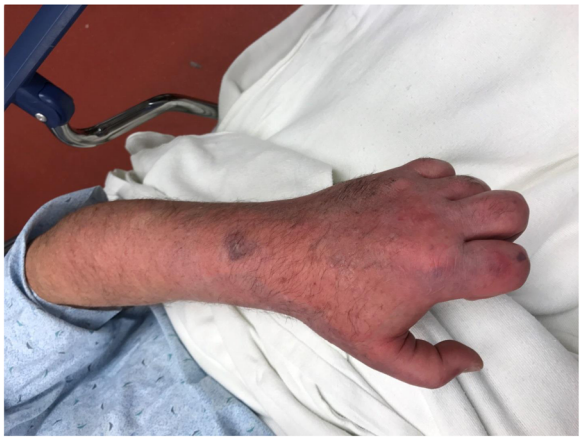

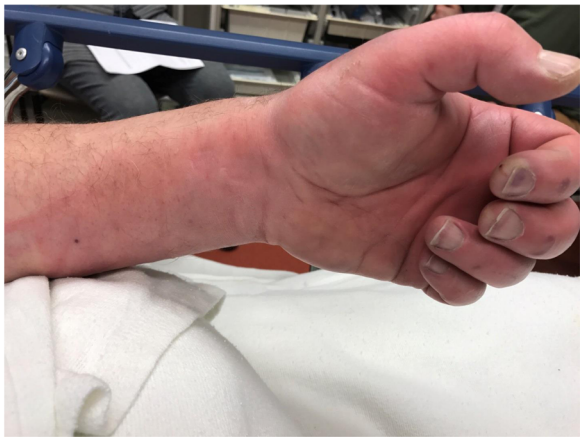

Fig. 1. Suspected flexor tenosynovitis in an intravenous drug user.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.visj.2019.100557.

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Questions

1. Which of the following is not one of Kanavel's Signs of flexor tenosynovitis?
   a. Paralysis of the affected finger
   b. Pain over flexor tendon sheath
   c. Pain upon passive extension of finger
   d. Finger held in passive flexion

2. Which structure does not pass through the carpal tunnel?
   a. Median nerve
   b. Flexor pollicis longus
   c. Abductor pollicis longus
   d. Flexor digitorum profundus

Answers

1. Paralysis of the affected finger. Explanation: Flexor tenosynovitis is often difficult to diagnose, but has a high morbidity if it isn't treated quickly and is therefore a surgical emergency. Kanavel's Signs of flexor tenosynovitis include pain over flexor tendon sheath, pain upon passive extension of finger, finger held in passive flexion, and fusiform swelling of the digit.[1,2,3]

2. Abductor pollicis longus. Explanation: The carpal tunnel contains the median nerve, flexor pollicis longus tendon, flexor digitorum profundus tendons and flexor digitorum superficialis tendons. The abductor pollicis longus, which forms part of the anatomical snuffbox, abducts the thumb at the wrist and does not pass through the carpal tunnel. Reference: Moore KL, Dalley AF, Agur AM. Clinically oriented anatomy. Lippincott Williams & Wilkins; 2013 Feb 13.