Clinical Image

Daniel Sullivan, OMS III and McKennan Thurston, MD*

Acute fracture of extensive Achilles tendon calcific tendinopathy

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In May 2020, a 72 year old man presented to an outpatient orthopedic sports medicine clinic with a 3 week history of right ankle pain that began while mowing his lawn. One week after the onset of pain, the patient felt a “pop” and experienced subsequent bruising, swelling, and tenderness to his right lower leg. Walking was limited to short strides. At 2 years old, he underwent right lower leg surgery to correct in-toeing but had been asymptomatic since. Upon presentation to the orthopedic sports medicine clinic, the patient’s Achilles tendon had an indurated, “woody” feel. Full range of motion was intact, and a Thompson test was negative. An Achilles tendon total rupture score was not taken. The contralateral leg was unremarkable. Laboratory tests were not performed upon initial presentation but were unremarkable several months later. In-office ultrasound revealed a linear hyperechoic signal with a segment of discontinuity (**Image A, green arrow**). Plain radiographs and magnetic resonance imaging (MRI) demonstrated ossification of the Achilles tendon with a fracture of the ossified mass (**Image B, red arrow; Image C, blue arrow**). The patient agreed to a trial of nonsurgical treatment involving home exercises for range of motion, nonsteroidal anti inflammatory drugs (NSAIDs), and activity modification. Conservative treatment resulted in worse range of motion at the first follow up visit. The patient was then immobilized with a cast for 4 weeks and underwent physical therapy for several weeks thereafter. Five months after the inciting event, the patient reported no pain and full functionality.

*Corresponding author: McKennan Thurston, MD, Rocky Vista University College of Osteopathic Medicine, 1730 E 3100 N, Ivins, UT, 84040-2407, USA, E-mail: mckennan.thurston@gmail.com
Daniel Sullivan, OMS III, Rocky Vista University College of Osteopathic Medicine, Ivins, UT, USA

Extensive calcification of the Achilles tendon with a subsequent fracture is exceedingly rare [1, 2]. As with this case, previous reports have described patients who experienced acute trauma affecting the Achilles tendon decades prior [2–5]. A fracture of the calcified tendon may or may not result in a complete tendon rupture. Conservative and surgical treatments have both been reported. Conservative interventions include ice and heat application, range of motion exercises, oral and topical NSAIDs, orthotics, and physical therapy [6]. Surgical interventions include replacing the tendon with an autograft from the tensor fasciae latae [7], flexor hallucis longus tendon [2], or hamstring tendon [8].

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References

1. Arora AJ, Arora R. Ossification of the bilateral Achilles tendon: a rare entity. *Acta Radiol Open* 2015;4:205846011559918.
2. Battaglia TC, Chandler JT. Ossific tendonitis of the Achilles with tendon fracture. *Orthopedics* 2006;29:453–5.
3. Cortbaoui C, Matta J, Elkattah R. Could ossification of the Achilles tendon have a hereditary component? *Case Rep Orthop* 2013;2013. <https://doi.org/10.1155/2013/539740>.
4. Majeed H, Deall C, Mann A, McBride DJ. Multiple intratendinous ossified deposits of the Achilles tendon: case report of an unusual pattern of ossification. *Foot Ankle Surg* 2015;21. <https://doi.org/10.1016/j.fas.2014.12.001>.
5. Manfreda F, Ceccarini P, Corzani M, Petruccelli R, Antinolfi P, Rinonapoli G, et al. A silent massive ossification of Achilles tendon as a suspected rare late effect of surgery for club foot. *SAGE Open Med Case Rep* 2018;6. <https://doi.org/10.1177/2050313x18775587>.
6. Maffulli N, Longo UG, Kadakia A, Spiezia F. Achilles tendinopathy. *Foot Ankle Surg* 2020;26:240–9.
7. Gendera H, Lambers-Heerspink F, Bruls V, Drees M. Extensive Achilles tendon ossification: repair using a fascia lata graft. *Foot* 2020;43:101663.
8. Ishikura H, Fukui N, Takamura H, Ohashi S, Iwasawa M, Takagi K, et al. Successful treatment of a fracture of a huge Achilles tendon ossification with autologous hamstring tendon graft and gastrocnemius fascia flap: a case report. *BMC Musculoskelet Disord* 2015;16. <https://doi.org/10.1186/s12891-015-0821-x>.