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Infectious Achilles Tendinitis After Local Injection of Human Placental Extracts: A Case Report

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ABSTRACT

Local injections of corticosteroids or human placental extracts are sometimes used for the treatment of resistant tendinitis or fasciitis. We report a case of infectious Achilles tendinitis complicated by calcaneal osteomyelitis after injection of human placental extracts for the Achilles tendinitis. She was treated with excision of the infected bone and tendon, followed by V-Y lengthening of the proximal portion of the Achilles tendon in a single stage. At 2 years postoperative, she remained symptom free without any signs of recurrence, and the follow-up magnetic resonance imaging scan demonstrated a well-maintained Achilles tendon with normal signal intensity.

The etiology and pathogenesis of Achilles tendinitis are still unknown, and chronic tendinitis often takes an intractable course despite various treatments. Local injection of corticosteroids is sometimes used in daily practice for resistant Achilles tendinitis because of their strong anti-inflammatory effects. However, the local injection of a corticosteroid has some possible risks such as a loss of skin pigmentation, subcutaneous atrophy, tendon rupture, and infection (1–4). Human placental extracts (HPEs) have also been used for local injection because of their anti-inflammatory and analgesic effects (5,6). However, no case of an HPE injection causing complications such as subcutaneous atrophy, tendon rupture, or infection has been reported.

We report a case of infectious Achilles tendinitis complicated by calcaneal osteomyelitis after an injection of HPEs. The patient was successfully treated with excision of the infected bone and tendon, followed by reattachment of the tendon using a suture anchor after proximal V-Y lengthening. To our knowledge, this is the first report of infectious Achilles tendinitis after an injection of HPEs treated with excision of the infected bone and tendon, followed by reconstruction of the tendon in a single-stage procedure. In this report, we present our results and a review of the published data.

Case Report

A 40-year-old female patient presented to our hospital with pain and swelling in her left posterior heel. She had experienced moderate pain at the insertion site of the Achilles tendon for 3 months and had been diagnosed with chronic Achilles tendinitis at a local clinic. The physician at the clinic performed injection therapy of HPEs into her painful Achilles tendon. She experienced a local heat sensation and worsening of pain 1 week after the injection. She was told that these sensations could occur normally after the HPE injection. However, the symptoms did not subside, and oral antibiotic treatment was given to her for 2 weeks under the diagnosis of a mild infection. The condition worsened over time, and she visited our hospital 5 weeks after the HPE injection. The physical examination revealed moderate swelling, redness, and tenderness around the insertion of the Achilles tendon (Fig. 1*A*). Plain radiographs showed an osteolytic lesion in the calcaneus near the Achilles tendon insertion, suggesting the possibility of osteomyelitis (Fig. 1*B*). The serum inflammatory levels for the erythrocyte sedimentation rate and complement reactive protein had increased to 55 mm/hr and 7.2 mg/L, respectively. Magnetic resonance imaging with contrast enhancement revealed an intratendinous abscess of the distal Achilles tendon and an increased inflammatory response in the surrounding soft tissues (Fig. 1*C*). Also, high-signal intensity within the posterosuperior calcaneus was combined with a cortical breakage, confirming the diagnosis of infectious Achilles tendinitis with calcaneal osteomyelitis. The Victorian Institute of Sport Assessment-Achilles score at that time was 22 (7).

Because of a diagnosis of infectious Achilles tendinitis complicated by calcaneal osteomyelitis, we performed an operation with the

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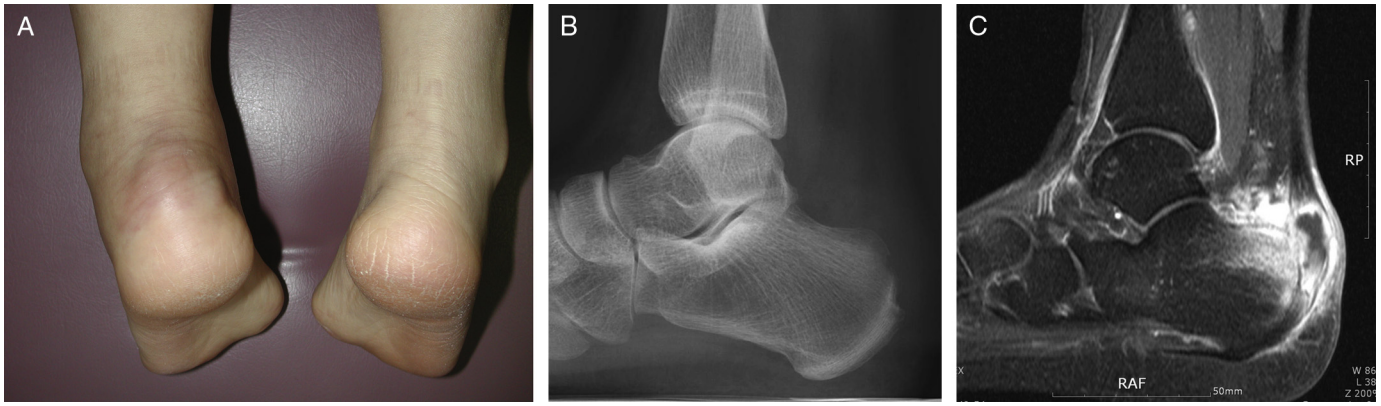

Fig. 1. (*A*) Photograph of both heels of our 40-year-old female patient. Her left heel was very swollen and reddish. She also complained of a local heat sensation and worsening pain at the insertion site of the Achilles tendon, where the human placental extracts had been injected previously. (*B*) A lateral radiograph of the foot showing an osteolytic lesion in the calcaneus near the Achilles tendon insertion, suggesting the possibility of osteomyelitis. (*C*) A T_2-weighted fat-suppressed sagittal magnetic resonance image with contrast enhancement revealing an intratendinous abscess and cortical breakage of the posterosuperior calcaneus with high-signal intensity.

patient placed in the prone position. An L-shaped incision was made on the medial side of the Achilles tendon. The abscess was found, and intraosseous pus formation was confirmed after incision of the tendon (Fig. 2*A*). The infected portion of the Achilles tendon, about 3 cm long, was totally excised, and the infected calcaneus was completely curetted out (Fig. 2*B*). Next, the distal end of the healthy remaining Achilles tendon was reattached to the calcaneus using a metal Corkscrew® suture anchor (Arthrex, Naples, FL) after V-Y lengthening of the proximal portion of the Achilles tendon (Fig. 2*C*). Histologically, many leukocytes and reactive inflammatory cells were found around the tendon and the curetted bone tissue. The pathologist confirmed the diagnosis of infectious tendinitis and osteomyelitis (Fig. 2*D*). However, the culture study was negative, and the causative microorganism could not be isolated. The results of intraoperative Gram stain did not show the presence of any organisms. Postoperatively, intravenous cefazolin was administered with a dosage of 500 mg every 12 hours for 1 week, followed by 5 weeks of oral cefixime with a dosage of 200 mg every 12 hours.

Postoperatively, a short leg cast was applied for 6 weeks. Muscle strengthening exercises and weightbearing as tolerated were allowed

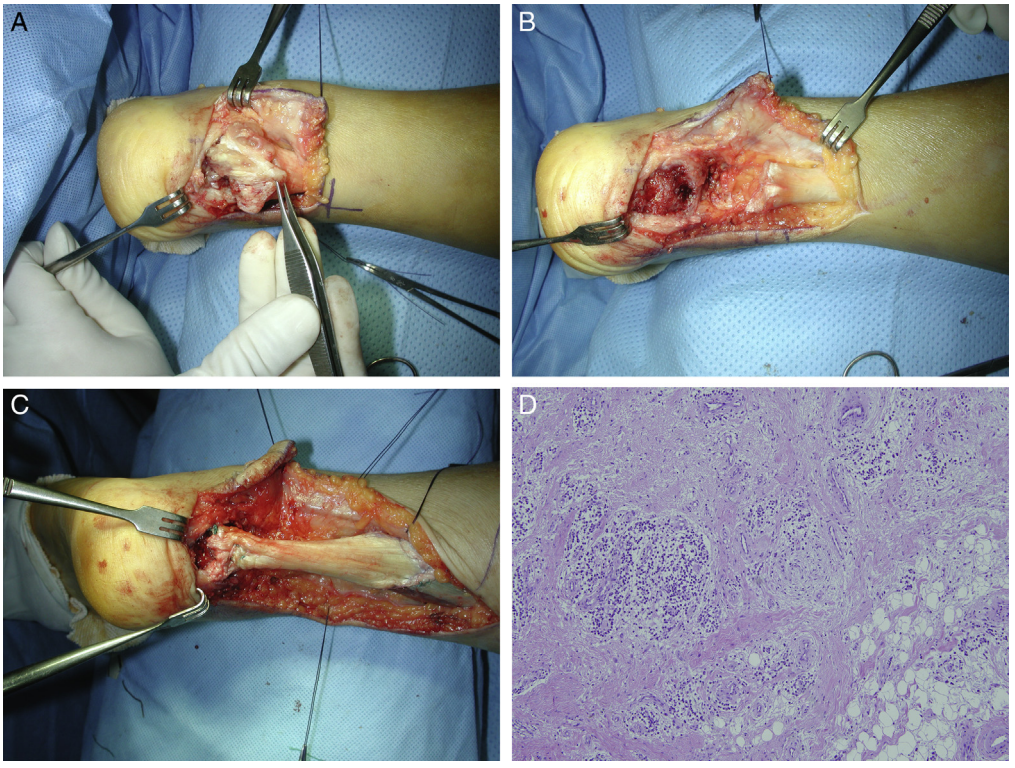

Fig. 2. (*A*) The Achilles tendon was exposed with an L-shaped incision. An intratendinous abscess and osteomyelitis of the calcaneus were observed. (*B*) The distal 3-cm portion of the infected Achilles tendon was excised, and meticulous curettage was performed to remove the infected calcaneal bone. (*C*) An advancement of the tendon with proximal V-Y lengthening was performed to restore the Achilles tendon length. (*D*) High-power light photomicrograph of the tissue specimen showing many leukocytes and reactive inflammatory cells around the tendon, confirming the infectious tendinitis. However, the presence of microorganisms was not verified (hematoxylin and eosin stain, original magnification ×100).