

Achilles Tendon Ossification Treated Without Medication or Surgery

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Abstract

Ossification of the Achilles tendon is a rare disease and seen more frequently in men than in women. Most patients present with pain caused by local inflammation. It is a disease of physically active people, and management of these patients is important. Many pathologic and molecular studies have been conducted to determine the cause of this disease. Minor trauma and microdamages may be the most important factors related to Achilles tendinopathy or Achilles tears. Sometimes, in cases without significant symptoms, no treatment is needed; in symptomatic ones, however, relief of pain is the main treatment objective. Treatment of this disease varies from conservative treatment, including NSAIDs or physiotherapy, to electrotherapy, ionotherapy, and surgical strategies. Herein we report of a patient with Achilles tendon ossification, diagnosed by physical and radiographic evaluation treated with a foot brace without any drugs or surgery. The relation between radiographic changes and patient symptoms was important and helpful in choosing the mode of treatment.

Keywords: Pain, Analgesia, Amputation.

Introduction

Achilles tendon is a high tensile tendon, and ossification of Achilles tendon is rare.¹ Its prevalence is twice as high in males as in females, and it usually occurs in active people.² The cause of this condition is unknown, but factors that make a person prone to this disease have been studied and reported, such as genetic background, metabolic disorders, structural faults, and trauma.³ Minor trauma and microdamages may be the most important factors related to Achilles tendinopathy or Achilles tear.⁴ Recently, some researchers studied microscopic changes in the tendon to identify the features of the disease.^{5,6} Patients complain of pain caused by local inflammation or fractures in the ossified mass.⁷ Treatment includes conservative and surgical therapies, although controversy regarding treatment planning is reported in the literature. Frequently, excision is indicated when ossification is symptomatic, small, and removable.¹ Conservative treatment usually comprises nonsteroidal anti-inflammatory drugs (NSAIDs), physiotherapy, electrotherapy, and ionophoresis.⁸ Herein we report a patient with Achilles tendon ossification who was treated without drugs and only using a brace.

Case report

Our case was a 60-year old male who presented to our clinic with the chief complaint of pain in the posterior part of his right ankle. He was a right-handed, retired office worker. He experienced a dull pain that started suddenly a few days before his visit; the pain had no radiation, but increased with weight gain and walking.

The patient had no history of direct trauma to the painful region or any past medical condition such as musculoskeletal disorders in himself or his family members.

Upon examination, the right Achilles tendon showed no signs of swelling or erythema; it was slightly tender, and motion of the right ankle was reduced due to the active range of pain. On palpation, a notch was observed on the tendon.

An AP and lateral right ankle arthrography was performed using x-ray. The results showed calcification and rupture in the right Achilles tendon (Figures 1 and 2).

Conservative treatment by utilizing an ankle brace and analgesics were suggested to the patient. After 3 weeks, all symptoms were relieved, the pain had completely disappeared, and the patient had gained full function in his right ankle.



Figure-1. Ossification of achilles tendon



Figure-2. Ossification of achilles tendon

Discussion

Ossification of Achilles tendon is a rare disease and no data on its incidence is available.⁴ It happens twice as frequently in men as in women. No peak age was found for it. Ossification usually affects less than 50% of the tendon bulk, and it happens in the original calcaneus insertion site or the body of the tendon, but the proximal tip is frequently affected.^{9,10,11} No definite etiology has been described, but some authors believe that history of injury, club foot, Achilles tenotomy, and resection of the plantar fascia¹² are involved in the occurrence of this disease; however, the most causative factors may be chronic microtrauma and injuries. Genetics also play a role in Achilles ossification.¹ There are many pathologic studies about this disease. Sasaki et al. (2005) described collagen degeneration as a cause of calcification and ossification related to vascular insufficiency (1). Some lamellar bone in different sizes are seen in ossified Achilles tendon.¹³ Rooney et al. (1993) demonstrated that enchondral ossification including calcified cartilage, osteoid and bone formation can be seen in the pathologic study of these patients. Moreover, there is intramembranous ossification due to chronic microcalcification.¹¹ Other authors found conglomerate foci of calcification.¹³ The prominent symptom is pain due to either local inflammation or fracture in the ossified mass.⁹ There are many treatment strategies for the disease in the literature. Treatment varies from conservative treatment, such as NSAIDs or physiotherapy, to electrotherapy, ionotherapy, and surgery. Some authors believe that when a patient has no symptoms, no treatment is needed.¹⁴ Most authors believe that when a rupture occurs, surgery is indicated.¹ In this case, the patient was treated with only a brace and no added medications (except analgesics) or procedures were used. All of the patient's symptoms were relieved, and he had no pain after the treatment period. Although no radiographic change was observed, the patient's satisfaction and return to his previous activity were more important. This treatment can be used in older patients or those who cannot take medications. Of course, more studies should be performed to validate this treatment.

Conclusions

Herein we report of a patient with Achilles tendon ossification, diagnosed by physical and radiographic evaluation treated with a foot brace without any drugs or surgery. The relation between radiographic changes and

patient symptoms was important and helpful in choosing the mode of treatment.

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Authors' Contribution

All authors pass the four criteria for authorship contribution based on the International Committee of Medical Journal Editors (ICMJE) recommendations.

Conflict of Interests

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