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Achilles Tendon Rupture in a Patient Presenting with Pain in the Ankle: A Case Report

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ABSTRACT

Achilles tendon rupture is the most common tendon rupture of the lower extremity. Lower extremity and foot pains are frequently among the complaints of patients who apply to the primary care unit. In this case report, we wanted to explain Achilles tendon rupture, which can also be encountered in primary care and should be considered among the differential diagnoses.

Keywords: Achilles tendon, family practice, mobility limitation, rupture



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INTRODUCTION

Achilles tendon rupture is the most common tendon rupture of the lower extremity, which mostly affects active people and is caused by repetitive, compulsive movements such as running, jumping, and sudden acceleration or deceleration. It is 3 times more common in men than women.^[1] The rupture usually occurs approximately 2–6 cm proximal to the calcaneus entry of the tendon of the gastrocnemius and soleus muscles.^[2] Causes of Achilles tendon rupture include forced sudden plantar flexion of the foot, direct trauma, long-standing tendinopathy, and intratendinous degenerative conditions. Acute ruptures usually present with sudden onset pain associated with an audible “pop” sound at the injury site. Patients may describe a feeling similar to being kicked in the lower leg. On physical examination, patients with ruptured Achilles tendon cannot stand on their toes, and plantar flexion of the ankle is weak.^[3] The Achilles tendon area is evaluated for ecchymosis, increased temperature, hematoma, edema, and tenderness. Palpation is used to check for tendon continuity.^[4] According to clinical suspicion after physical examination, the diagnosis can be confirmed by ultrasonography or magnetic resonance imaging.^[5] The first step in the treatment of a patient diagnosed with Achilles tendon rupture is rest, elevation, pain control, and functional support. Conservative and surgical treatment options are available in the next step. Due to similar results in surgical and conservative approaches, surgery is generally preferred in a selected group of patients with high physical needs.^[6] With this case report, we wanted to state that Achilles tendon rupture should be kept in mind in patient with ankle pain.

CASE REPORT

A 67-year-old male patient presented with complaints of pain and limited mobility in the left ankle. The patient described a sudden onset of severe pain as if hitting his left ankle with a stone while performing a dance and a spasm in the left lower leg. The patient applied to the

emergency outpatient clinic as his pain did not go away after 1 day. The patient was evaluated by family medicine residents in the emergency department. It was learned that the patient had known coronary artery disease and hypertension, a history of cerebrovascular accident in 2012, and percutaneous transluminal coronary angioplasty was performed in April 2021. The patient was using acetylsalicylic acid 100 mg/day, ticagrelor 180 mg/day, pantoprazole 40 mg/day, atorvastatin 80 mg/day, ramipril 10 mg/day, and metoprolol 50 mg/day. The patient had a 30-pack/year smoking history. On physical examination, vital signs were normal (fever: 36.2°C, blood pressure: 130/85 mmHg, pulse: 76 bpm). There was no open wound, ecchymosis, or dermabrasion. With palpation, a gap was detected in the left Achilles tendon and pain at the tendon level. Left ankle plantar flexion was weak and slightly painful. Left toe, knee, and hip joints' mobilities were normal. Thompson's test was positive. Neurological examination and other system examinations were normal.

Achilles tendon rupture was considered in the preliminary diagnosis of the patient. Ultrasonography examination of the left Achilles tendon was requested and reported as follows: A hetero-geneous appearance, approximately 5–6 cm proximal to Tuber calcanei, which may be compatible with partial rupture and echogenic areas of hemorrhage close to the trace and the distal part of the Achilles tendon is edematous were observed. The patient was consulted by the orthopedics and traumatology department with the diagnosis of partial Achilles tendon rupture. A short leg splint in plantar flexion was applied to the patient by the consultant. Ice application, rest, left ankle elevation, and non-steroidal anti-inflammatory medication have been suggested. The patient was evaluated in the orthopedics and traumatology outpatient clinic 5 days after discharge, and elective left ankle magnetic resonance imaging was requested. MRI result showed a complete tear in the middle part of the Achilles tendon. Magnetic resonance imaging (MRI) images of the left ankle are shown in Figure 1. At this

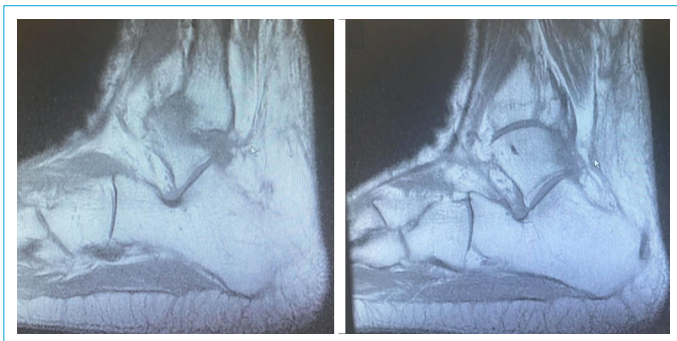


Figure 1. MRI images of the left ankle.

level, edematous signal changes were observed in the surrounding soft tissue. The operation was recommended to the patient by the orthopedic department.

DISCUSSION

Although the Achilles tendon is the strongest and largest tendon in our body, it is the most frequently injured tendon in the lower extremity.^[7] The incidence of Achilles tendon rupture was found to be approximately 18/100,000 in a study. In the USA, Achilles tendon ruptures occur most frequently in young male patients (20–39 years), while the greatest increase in incidence was observed in middle-aged patients (40–59 years). The reason for this situation is thought to be an increase in participation in recreational sports in middle age.^[8] Our patient stated that he experienced such a situation at the age of 67 while dancing (hala) for entertainment purposes.

Multiple risk factors for Achilles tendon rupture have been identified.^[3] These risk factors can be listed as poor pre-exercise condition, long-term corticosteroid use, excessive effort, chronic systemic diseases, and quinolone antibiotic use. Individuals with a family history of Achilles tendon rupture are also at greater risk. Right-handed individuals are more likely to rupture the left Achilles tendon, and vice versa. Our patient also uses his right hand dominantly, and an Achilles tendon rupture occurred on his left side.

Acute Achilles tendon rupture can only be diagnosed by history and physical examination.^[7] According to the American Academy of Orthopedic Surgeons Clinical Practice Guidelines, the presence of two of the findings, which are positive Thompson test, decreased plantar flexion strength, palpable defect in the distal Achilles tendon, or increased passive ankle dorsiflexion at rest (Matles test) is sufficient for the diagnosis.^[9] MRI and ultrasonography may also be helpful in cases of suspicious or partial rupture and assist in pre-operative planning.^[7] The main goals of treatment are to restore the length and tension of the tendon to optimize the patient's ability to return to the desired level of activity. The treatment approach should be patient-specific depending on many factors, such as age, functional demand, activity level, and medical comorbidities.^[7] There are different treatment management options, from conservative treatment to open or percutaneous surgical repair.^[6] Ice application, rest, left ankle elevation, and non-steroidal anti-inflammatory drugs were recommended to our patient. The operation was planned for our patient according to the MRI results of the left ankle.

CONCLUSION

In this case report, it has been shown that Achilles tendon rupture can be due to ankle sprain, which is a frequent reason for referral to family medicine. Since family physicians are at the first point of contact with the patient, it is of great importance that they take the patient's anamnesis in detail and evaluate the patient with a comprehensive and holistic approach.

Disclosures

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Conflict of Interest: Written informed consent was obtained from the patient for his anonymized information to be published in this article.

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