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Case Report

Presence of a long accessory flexor tendon of the toes in surgical treatment for tendinopathy of the insertion of the calcaneal tendon: case report☆

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ABSTRACT

The presence of accessory tendons in the foot and ankle needs to be recognized, given that depending on their location, they may cause disorders relating either to pain processes or to handling of the surgical findings. We describe the presence of an accessory flexor tendon of the toes, seen in surgical exposure for transferring the long flexor tendon of the hallux to the calcaneus, due to the presence of a disorder of tendinopathy of the insertion of the calcaneal tendon in association with Haglund's syndrome.

Presença do tendão flexor acessório longo dos dedos no tratamento cirúrgico da tendinopatia insercional do tendão calcâneo: relato de caso

Palavras-chave:
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RESUMO

A presença de tendões acessórios no pé e no tornozelo necessita de seu reconhecimento, visto que, a depender da localização, podem gerar afecções, seja em processos álgicos ou no manuseio do achado cirúrgico. Descrevemos a presença do tendão flexor acessório dos dedos na exposição cirúrgica para transferência do tendão flexor longo do hálux para o calcâneo na vigência de afecção de tendinopatia insercional do tendão calcâneo associado à afecção de Haglund.

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Introduction

Tendinopathy of the insertion of the calcaneal tendon with or without associated bone exostosis or Haglund's deformity is a condition that is difficult to treat and it may cause functional incapacity and limitation of athletes' performance.[1]

This condition involves tendon degeneration in association with thickening of the bursa and the tissues surrounding the tendon, together with mechanical pressure exerted by the bone prominence, with diminution of local vascularization.[1] When this condition is severe, the percentage success through conservative treatment is low. One treatment option is to transfer the long flexor tendon of the hallux to the calcaneus.[1,2]

The long flexor of the hallux is chosen because it has sufficient length, it is durable, it is stronger than the fibularis tendon, its contraction force axis is similar to that of the calcaneal tendon and maintains the muscle balance and it is close to the calcaneal tendon, which facilitates the surgical procedure.[1,2]

The surgical procedure is performed in association with the necessary debridement of the entire area of devitalized tendinosis of the calcaneal tendon, with exostectomy or ostectomy of the posterosuperior process of the calcaneus, until decompression of the entire calcaneal tendon has been achieved. In the case presented here, we used the technique of transferring the flexor tendon of the hallux to the calcaneus, with tendon harvesting above the malleolus[1] and fixation of the long flexor tendon using an interference screw anteriorly to the insertion of the calcaneal tendon. Through this technique, the connections or links of the distal stump of the long flexor tendon of the hallux with the flexor tendon of the toes are maintained intact.

The aim of this case report was to present a surgical finding of an accessory long flexor tendon of the toes, superficially and laterally to the flexor tendon of the hallux, during a transfer procedure to treat tendinopathy of the insertion of the calcaneal tendon.

Case report

The patient was a 48-year-old man who presented chronic posterior ankle pain of progressive nature, during and after physical activity, even at recreational level, which caused functional limitation with regard to practicing soccer and short-distance running. He presented pain upon palpation at the insertion of the calcaneal tendon and antalgic gait.

Radiography showed calcification at the insertion of the tendon and magnetic resonance imaging showed tendinosis and partial injury of the tendon at the insertion of the calcaneal tendon (Fig. 1). After clinical examination and complementary examinations, the condition was diagnosed as tendinitis of the insertion of the calcaneal tendon with Haglund's deformity and significant associated tendinosis.

After eight months of conservative treatment comprising specific physiotherapy, hydrotherapy and analgesic and anti-inflammatory medications, it was decided to implement surgical treatment. This was planned to include transfer of the long flexor tendon of the hallux, posterosuperior ostectomy of the calcaneus and debridement of the entire devascularized and fibrotic region of the calcaneal tendon.

The patient was positioned in prone decubitus, a tourniquet was applied at the root of the thigh after spinal anesthesia, asepsis and antisepsis were performed and sterile fields were emplaced. A posteromedial incision was made, going from the muscle-tendon transition of the calcaneal tendon to the distal insertion, with lateral curvature for a better approach to the insertion and bone exostosis.

Dissection was performed in layers, with rigorous hemostasis, and the subcutaneous tissue was preserved until the paratendon was viewed. An inspection was made, and all of the devitalized, calcified, degenerated and amorphous tissue at the insertion of the calcaneal tendon was debrided. Posterosuperior ostectomy of the calcaneus was then performed until total decompression of the calcaneal tendon had been achieved.

After pushing the calcaneal tendon back superiorly within the surgical exposure after its deinsertion, it was observed that an anomalous flexor tendon was present, superficially to the deep fascia, with a muscle belly going from where it was viewed proximally in the surgical field to where it went beyond the ankle distally and acquired the shape of a tendon, with its own fibrous bone tunnel.

From its location, it was identified as an anomalous accessory long flexor tendon of the toes, with anatomical variation such that it was not in direct contact with the neurovascular bundle. This tendon did not present any degenerative or fibrotic alteration to its morphology. It was found through surgical exposure and did not have any direct relationship with the etiology of the condition in question (Fig. 2). The entire length of the anomalous tendon was then resected. The deep fascia was opened, the long flexor of the hallux was isolated and identified in its tunnel, and tenotomy was performed. The maximum tendon length was obtained and the ankle and hallux remained with maximum flexion.

At this stage, tenodesis of the long flexor of the hallux was performed at the calcaneus, using a 7.00 mm bioabsorbable interference screw slightly anteriorly to the previous insertion of the calcaneal tendon, with the ankle at 15° of equinus. The debrided calcaneal tendon was reinserted using bone anchors. After closure of the incision in layers, a dressing and a plaster cast splint at 15° of equinus were applied. The patient began physiotherapy after three weeks of fixed immobilization, at which time this was exchanged for removable immobilization. Partial load bearing was authorized after five weeks.

Discussion

Five different anomalous muscles in the foot and ankle have been described[3,4]: in the posterolateral region, the tendon of the fourth fibularis; in the posteromedial region, the tendons of the internal fibulocalcaneal ligament; the long accessory flexor of the toes (quadratus plantae); the internal tibiocalcaneal ligament; and the accessory soleus.[3]