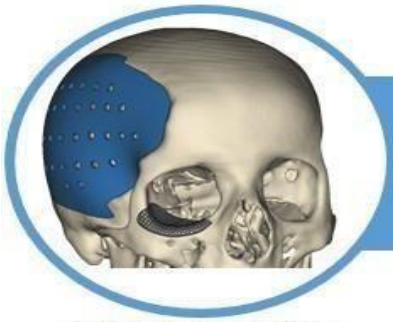

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Bilateral plantar and achilles tendon spurs.

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CASE REPORT

ABSTRACT

Context: A calcaneal spur, also known as an enthesophyte, is an abnormal bone growth on the underside of the calcaneus, which is the most common site for a bone spur to occur. Although there is consensus that calcaneal spurs are a common cause of heel pain, approximately 20% of calcaneal spurs are asymptomatic and their pathology is still not fully understood**. Objective:** Report the presence of a plantar spur on the calcaneus and another on the insertion of the Achilles tendon bilaterally**. Case report:** Female patient, 58 years old, housewife, came to our clinic with a history of pain in the heel region bilaterally when walking, more pronounced on the left, which started approximately two years ago. An X-ray of the ankles and feet was requested, where an enthesophyte could be seen at the insertion of the Achilles tendon and in the plantar fascia of the Achilles in both the right and left foot. After diagnosing the presence of enthesophytes, she was medicated with a non-hormonal anti-inflammatory drug and referred to physical therapy. After a year, the pain improved and she returned to his daily walking activities. **Conclusion:** Conservative clinical treatment produced satisfactory results in the treatment of calcaneal spurs.

Keywords: Calcaneal tuberosity, Plantar calcaneal spur, Bony outgrowth, Calcaneal spur, Plantar heel pain, Plantar fasciitis.

Esporões plantares e tendões de aquiles bilaterais.

RESUMO

Contexto: Um esporão de calcâneo, também conhecido como entesófito, é um crescimento ósseo anormal na parte inferior do calcâneo, que é o local mais comum de ocorrência de esporão ósseo. Embora haja consenso de que o esporão do calcâneo é uma causa comum de dor no calcanhar, aproximadamente 20% dos esporões do calcâneo são assintomáticos e sua patologia ainda não é totalmente compreendida. **Objetivo:** Relatar a presença de um esporão plantar do calcâneo e outro na inserção do tendão de Aquiles bilateralmente. **Relato de caso:** Paciente do sexo feminino, 58 anos, prendas do lar, procurou nossa clínica com história de dor na região do calcanhar bilateralmente quando deambulava, mais acentuada a esquerda, e teve início aproximadamente há dois anos. Foi solicitado um RX dos tornozelo e pés, onde pode ser observado entesófito na inserção do tendão do calcâneo e na fáscia plantar do calcâneo tanto no pé direito quanto esquerdo. Após diagnosticar a presença dos entesófitos, foi medicada com anti-inflamatório não hormonal e encaminhada para fisioterapia. Após um ano, a dor melhorou e retornou as suas atividades diárias de caminhada. **Conclusão:** O tratamento clínico conservador produziu resultado satisfatório no tratamento do esporão do calcâneo.

Palavras-chave: Tuberosidade do calcâneo, Esporão calcâneo plantar, Protuberância óssea, Esporão de calcâneo, Dor no Calcâneo, Fasceíte plantar.

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INTRODUCTION

The calcaneal spur, also known as enthesophyte, is an abnormal bone protuberance on the underside of the calcaneus, arising from the fibrocartilaginous insertion site, specifically the fascia of the plantar ligament, which is the most common site of bone spurs (WEISS, 2012). It was first described in 1900 by the German physician Plettner, who called it Kalkaneussporn - calcaneal spur (Plettner 1900; Menz et al., 2008; Kuyucu, Koçyiğit, Erdil, 2015). Although the formation of calcaneal bone spores is still not fully understood, it is hypothesized that the reactive ossification of the enthesis, mainly chondroid and intramembranous ossification, is due to excessive traction on the origin of the plantar fascia at the calcaneal tuberosity (Menz et al., 2008; Kuyucu, Koçyiğit, Erdil, 2015; Kumai, Benjamin, 2002; Kosmahl, Kosmahl, 1987; Benjamin et al., 2009). Clinically, it is characterized by pain and swelling in and around the tendon, mainly due to overuse, but often present in overweight middle-aged patients with no history of increased physical activity (Longo, Ronga, Maffulli, 2009; Longo, Ronga, Maffulli, 2018)

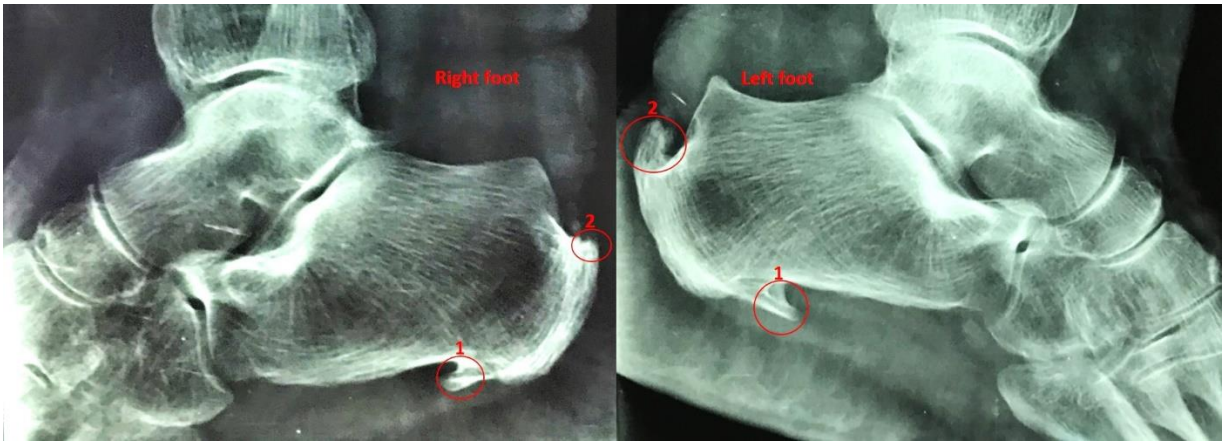
The Achilles tendinopathy is classified according to its anatomical site into insertional and non-insertional (Waldecker, Hofmann, Drewitz, 2012; Mansur et al., 2020). Insertional Achilles tendinopathy occurs in up to two centimeters proximal to the implantation of the tendon in the tuberosity of the calcaneal bone. It is usually associated with traction enthesophyte (upper spur), Haglund's deformity (pump bump) and pre- and retro-Achilles bursopathies (Mansur et al., 2020). They present an incidence of 3.7% in the population and correspond to 25% of all Achilles diseases. In runner athletes, the prevalence ranges from 5 to 18%, but they occur both in sedentary patients and in professional athletes, causing loss of performance and income, impacting on the quality of life (Waldecker, Hofmann, Drewitz, 2012; Amin et al., 2016; Hutchison et al., 2019). The non-insertional form of the disease has an incidence of about 1.85 per 1,000 inhabitants and is responsible for 6 to 17% of injuries in runners. The prevalence of this condition is estimated at 0.2% of sedentary patients and 7 to 9% of athletes and in recent decades it has shown an increasing characteristic (Longo, Ronga, Maffulli, 2009; De Jonge et al., 2011; Longo, Ronga, Maffulli, 2018). Anatomical

malformations have been frequently observed on routine radiographs of the foot and ankle joints. In most cases, such malformations are asymptomatic and observed incidentally on radiographic images performed for diagnosis of unrelated medical conditions (Leucht, Wiewiorski, 2018). Heel spurs are typically detected by X-ray examination. It is a form of exostosis and can be fractured by trauma like any other bone (Duvries, 1957; Rosenfeld, 1985). It may be located on the underside of the calcaneus and is typically a response to plantar fasciitis over a period, but may also be associated with ankylosing spondylitis, or develop on the back of the heel at the insertion of the Achilles tendon (Rosenfeld, 1985; Lapidus, Guidotti, 1965; Jørgensen, 1985). In many cases, the only abnormal physical sign is tenderness located below the calcaneus or heel. Sometimes the X-ray shows a bone spur projecting forward from the inferior surface of the calcaneal tuberosity (Aliessa, 2022). In the present study, the presence of a spur located on the inferior surface of the calcaneal bone and another with insertion on the posterosuperior surface of the Achilles tendon was reported.

CASE REPORT

A 58-year-old female patient, housewife, sought our clinic with a history of pain in the region of both heels when walking, more pronounced on the left, which had started two years ago. The pain was intermittent and worsened with sports activities and walking and was mainly located on the medial side of the heel. This pain appeared as a twinge or a pinprick in the soles of the feet, present from getting up in the morning or during the initial steps of walking or after sitting for a prolonged period. She denied any history of trauma to the feet, but reported that the pain subsided with rest. In addition, she had no history of previous treatment. An X-ray of the ankle and feet was requested, where an enthesophyte could be seen at the insertion of the calcaneal tendon and in the plantar fascia of the calcaneus in both the right and left foot (**Figure** 1). After diagnosing the presence of the enthesophytes, she was medicated with non-hormonal anti-inflammatory drugs and referred to physical therapy. After one year, the pain improved and the patient returned to her daily activities.

Figure 1. Lateral radiograph of the ankle and foot joint showing a spur at the base of the calcaneus and at the insertion of the Achilles tendon.



1. Heel spur

2. Achilles tendon insertion spur

DISCUSSION

The calcaneal tuberosity, insertion site of the plantar fascia, and its adjacent areas serve as important points of attachment for several structures that help maintain the integrity of the long arch of the foot, and all these structures exert traction force on the tuberosity and adjacent areas of the calcaneus. These forces were presented as tensions that induce bone growths from the calcaneus to the soft tissues (Kuyucu, Koçyiğit, Erdil, 2015). It is not yet clear whether a calcaneal spur is normal or pathological, since in 30% of the population it is asymptomatic. For most of the literature, the calcaneal spur is not part of the normal bony anatomy, but a cause of heel pain that is associated with plantar fasciitis in 80% of cases (Bartold, 2004).

Many systemic diseases, especially inflammatory ones, may be associated with heel spurs, such as rheumatoid arthritis, ankylosing spondylitis, diffuse idiopathic skeletal hyperostosis, Reiter's syndrome, psoriatic arthritis and acromegaly. In addition, obesity, aging, flat feet, occupations that involve prolonged standing, and sports are risk factors that contribute to heel spurs (Menz et al., 2008; Kuyucu, Koçyiğit, Erdil, 2015; Kumai, Benjamin, 2002; Kosmahl, Kosmahl, 1987; Benjamin et al., 2009). In these conditions they are usually bilateral. However, in 70% of cases the spurs are unilateral

(Kumai, Benjamin, 2002). In our case, the patient had bilateral calcaneal plantar spur and Achilles tendon spur and had no association with other pathologies. For Rudat et al., (2021) calcaneal plantar spurs are often associated with plantar fasciitis and plantar pain in the heel.

Bone spur sites most often occur on the calcaneus. Dorsal Achilles tendon spurs and plantar fascia bone spurs are often associated with sporting activities such as running and ballet (Shaw, Benjamin, 2007; Weiss, 2012). In our case, the patient was having difficulty practicing walking, due to severe pain when walking. Zhang et al., (2020) analyzing the most appropriate treatment strategies for patients with painful calcaneal spurs and plantar fasciitis, found that surgical treatment was the most appropriate, as it would immediately reduce pain, and for those who did not have pain did not require surgery. In our case, in which the patient reported significant pain when carrying out her walking activities, the use of anti-inflammatory drugs and physiotherapy were sufficient for her clinical improvement and her quality of life.

CONCLUSION

Conservative clinical treatment produces satisfactory results in the treatment of calcaneal spurs. For diagnostic purposes, the physician must take into account the patient's complaints and the data obtained in the survey of his life history.

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