

CASE REPORT

Footballer Ankle and Sinus Tarsi Syndrome

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ABSTRACT

Football is one of Malaysia's favorite sports. It is difficult to treat football players with an underlying footballer's ankle with lateral ankle sprain as several pathologies may co-exist simultaneously. Clinical history, physical examination, and radiological imaging are vital when treating patients with the above condition as correct diagnosis and treatments may reduce the patient's morbidity. 31-year-old, gentleman amateur football player with underlying footballer ankle presented with chronic left ankle pain after a lateral ankle sprain. A proper history taking, physical examination and magnetic resonance imaging (MRI) lead to the diagnosis of sinus tarsi syndrome. The athlete recovered well after a Shincort injection over the sinus tarsi region and physiotherapy.

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INTRODUCTION

Football is one of the favorite sports in Malaysia (1). Footballer's ankle, also known as anterior ankle impingement syndrome, is a painful condition caused by impingement of anterior tibia and talus that leads to osteophytic spur formation at the anterior tibial plafond margin (2). Ankle sprains account for about 67% of football related ankle injuries, making them the most common type (3). The consequences of ankle injuries to football players include reduced physical activity, endurance, and lost game time. The correct diagnosis of ankle sprain is important for athletes to return to sports expeditiously. We highlight the importance of history taking and physical examination while treating football athletes with chronic ankle pain.

CASE REPORTS

A 31-year-old gentleman, amateur footballer presented with chronic left ankle pain for 1 year. He had a history of left lateral ankle sprain 1 year ago during a football

match. He was unable to compete 100 % during football matches due to ankle pain. Besides that, there is minimal instability over the left ankle, which improved with ankle taping. Physical examination showed there was tenderness at the anterior-lateral region, especially the sinus tarsi as shown in Fig.1, the tenderness increased during dynamic eversion of the ankle, limited dorsiflexion with knee-to-wall testing of 7 cm, anterior drawer test was grade 2 with Foot and Ankle Disability Index (FADI) score of 45.



Fig. 1. Tenderness Spot of Left Ankle

A radiograph of the left ankle showed there was osteophyte at the anterior ankle joint. The magnetic resonance imaging (MRI) revealed there was anterior-talofibular ligament (ATFL), posterior-talofibular ligament (PTFL) and calcaneofibular ligament (CFL) injuries Fig 2, hyperintensity at sinus tarsi region with osteophyte at the anterior ankle joint Fig 3. Initially, he was offered surgery by an orthopedic surgeon after being treated conservatively for 1 year with physiotherapy with no improvement. However, the athlete refused due to personal reasons.



Fig. 2: MRI ankle Proton Density Fat Saturation (PDFS) in axial view showed thickened ATFL (arrow) and PTFL (arrowhead), as well as CFL (arrow) in coronal view (b) with high signal intensity suggestive of grade 2 injury.

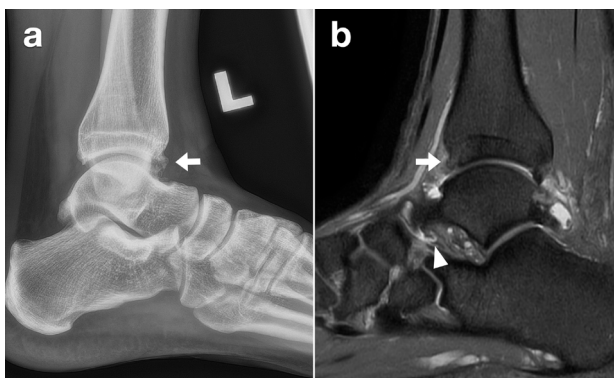


Fig. 3: Ankle radiograph in lateral view (a) showed anterior distal tibia marginal osteophyte (arrow). MRI ankle PDFS sequence in sagittal view (b) showed the osteophyte (arrow) and fluid in the anterior sinus tarsi (arrowhead) with diffuse soft tissue oedema.

In view of persistent pain, ultrasound-guided sinus tarsi injection with 40mg shincort was given. The symptoms improved gradually over 3 months. The knee-to-wall testing improved to 14 cm, with the FADI score increased to 90. The patient was able to follow the rehabilitation program well, which consisted of lower limb strengthening and proprioception training. After four months of rehabilitation, he returned to training and competitive matches without ankle symptoms.

DISCUSSION

There are numerous causes of chronic ankle pain in football players including chronic ankle instability, sinus tarsi syndrome, ankle impingement syndrome,

and osteochondral injury (3). Sinus tarsi syndrome is the clinical syndrome of pain and tenderness of the lateral region of hindfoot. These conditions may coexist together at the same time as the lateral ankle sprain may cause the above conditions. The proposed etiologies of sinus tarsi syndrome include pinching of the synovial membrane of sinus tarsi, damage to the ligaments of sinus tarsi, and chronic inflammation of the fibrous-adipose tissue in the sinus (4)

The medical history and physical examination play a vital role in distinguishing the cause of chronic ankle pain. Chronic ankle instability patients complain more of "joint giving away" sensation instead of pain as in sinus tarsi syndrome. Up to the current date, there are no pathognomonic signs or special tests to diagnose sinus tarsi syndrome. The recommended special test is dynamic ankle eversion with palpation of sinus tarsi and pain relief after the injection of the local anesthetic or steroid to the sinus tarsi region(4).

In terms of imaging investigations, MRI is one of the commonly used modalities. One of the studies showed that MRI is useful for identifying cervical ligament tears, sinus tarsi fat alterations, and synovial thickening after comparing with arthroscopic (5). Radiographs and computed tomography (CT) scan is the modality of choice if bony pathology is suspected such as arthritis, hind-foot malalignment, and elongated talar process.

In terms of clinical practice, lateral ankle sprain may cause several pathologies at the same time. On top of that, the patient with an underlying footballer ankle with evidence of osteophyte at the anterior ankle region may complicate the situation as the pain generator pathology cannot be identified easily. The clinical history, physical examination, and radio imaging must be considered before intervention is offered to patients.

CONCLUSION

Sinus tarsi syndrome must be considered as one of the causes of chronic ankle pain after a lateral ankle sprain. Early treatment of sinus tarsi syndrome may reduce the long-term morbidity of the patient.

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REFERENCE

1. Elumalai G, Mamat S, Ponnusamy V, Aman MS, Mat Arisah F. The Sports Participation Trend among Malaysians by Gender, Ethnic and Age Group. *Int J Acad Res Progress Educ Dev*. 2022 Feb 26;11(1):Pages 994-1002. DOI:10.6007/IJARPED/v11-i1/12288

2. Helgeson K. Examination and Intervention for Sinus Tarsi Syndrome. *North Am J Sports Phys Ther NAJSPT*. 2009 Feb;4(1):29–37. PMID: 21509118; PMCID: PMC2953318.
3. Walls RJ, Ross KA, Fraser EJ, Hodgkins CW, Smyth NA, Egan CJ, et al. Football injuries of the ankle: A review of injury mechanisms, diagnosis and management. *World J Orthop*. 2016 Jan 18;7(1):8–19. DOI: 10.5312/wjo.v7.i1.8. PMID: 26807351; PMCID: PMC4716575.
4. Willegger M, Bouchard M, Schwarz GM, Hirtler L, Veljkovic A. The Evolution of Sinus Tarsi Syndrome—What Is the Underlying Pathology?—A Critical Review. *J Clin Med*. 2023 Oct 31;12(21):6878. DOI: 10.3390/jcm12216878. PMID: 37959343; PMCID: PMC10650822.
5. Lee KB, Bai LB, Park JG, Song EK, Lee JJ. Efficacy of MRI Versus Arthroscopy for Evaluation of Sinus Tarsi Syndrome. *Foot Ankle Int*. 2008 Nov;29(11):1111–6. DOI: 10.3113/FAI.2008.1111. PMID: 19026205.