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Case report

A rare cause of lateral ankle pain: A symptomatic talus secundarius

Ruben Zwiers, M.D.[a,b,c,*], Peter A.J. de Leeuw, M.D.[a,b,c], Gino M.M.J. Kerkhoffs, M.D. Ph.D.[a,b,c], C. Niek van Dijk, M.D. Ph.D.[a,b,c]

[a] Academic Medical Center, Department of Orthopaedic Surgery, Amsterdam, The Netherlands
[b] Academic Center for Evidence-Based Sports Medicine (ACES), The Netherlands
[c] Amsterdam Collaboration for Health and Safety in Sports (ACHSS), The Netherlands

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ABSTRACT

The talus secundarius is one of the rarest accessory tarsal bones, being present in 0.01% of all ankles. It is located at the lateral side of the talus, distally to the tip of the fibula. Hitherto, only five cases of a symptomatic talus secundarius have been described in literature. We presented a case of bilateral symptomatic talus secundarius in a young gymnast. There was a difference in size of the two accessory bones. The large talus secundarius in the left ankle was fixated, in the right ankle the fragment was excised. Both excision and fixation in the presented patient led to satisfactory results, both in the short and long term outcome.

1. Introduction

The os trigonum and the os tibiale externum are the most common accessory bones in the foot and ankle. The talus secundarius is generally less known. It is located at the lateral side of the talus, distally to the tip of the fibula and is one of the rarest accessory ankle bones, being present in 0.01% of all ankles [1]. Up to present only five cases of a symptomatic talus secundarius have been described in literature [2–5]. We performed a literature review on this rare accessory bone and present a case of bilateral symptomatic talus secundarius in a high-level athlete.

2. Case report

A fourteen years old high-level gymnast presented with increasing pain at the lateral aspect of both ankles mainly during jumping exercises. The patient could not recall any trauma preceding his current complaints. With normal daily activities no limitations were reported. Past medical history did not reveal any other foot and ankle pathologies. On physical examination there was a normal hindfoot alignment, the range of motion of both the tibiotalar and talocalcaneal joints were symmetric, being 20° of dorsiflexion and 40° of plantar flexion and 20° of both inversion and eversion in the talocalcaneal joint. There was recognizable tenderness on palpation at the anterolateral aspect of both talar bones, specifically 1 cm distally to the anterolateral ligament complex. Both the anterolateral ankle ligaments and the syndesmosis were stable. In addition, there was tenderness over the distal aspect of the peroneal tendons, just distally to the tip of the lateral malleolus. However, peroneal tendon resistance tests did not reveal abnormalities. Based on the patient' complaints and the physical examination the differential diagnosis included a stress fracture, peroneal tendon instability, or a subtalar coalition.

The computed tomography (CT) scan of the right ankle showed a small rounded fragment ($7 \times 5 \times 2$ mm) lateral to the talus at the level of the subtalar joint, forming a synchondrosis with the talus. At the same location in the left ankle a larger osseous fragment was found ($17 \times 15 \times 10$ mm), with small cysts at the level of the synchondrosis (Fig. 1). In both ankles the superomedial aspect of the calcaneus showed an atypical aspect. In addition magnetic resonance imaging (MRI) showed bilateral bone marrow edema of the talus at the level of the fragments (Fig. 2).

The patient was diagnosed with a bilateral symptomatic talus secundarius. Initially, he was treated nonoperatively for a period of 6 weeks predominantly with rest and immobilization in a Walker boot. On follow-up there was no improvement and therefore it was decided to surgically address the pathology.

The patient underwent the surgical procedure for both ankles in a single session, under spinal anesthesia in the daycare unit. Patient was positioned supine with a tourniquet around both upper legs and prophylactic antibiotics (cefuroxime iv) were given according to the local protocol. At the right side the bony fragment

* Corresponding author at: Academic Medical Center, University of Amsterdam, Department of Orthopedic Surgery, P.O. Box 22660, 1100 DD Amsterdam, The Netherlands. Fax: +31 205669117.
E-mail address: r.zwiers@amc.uva.nl (R. Zwiers).

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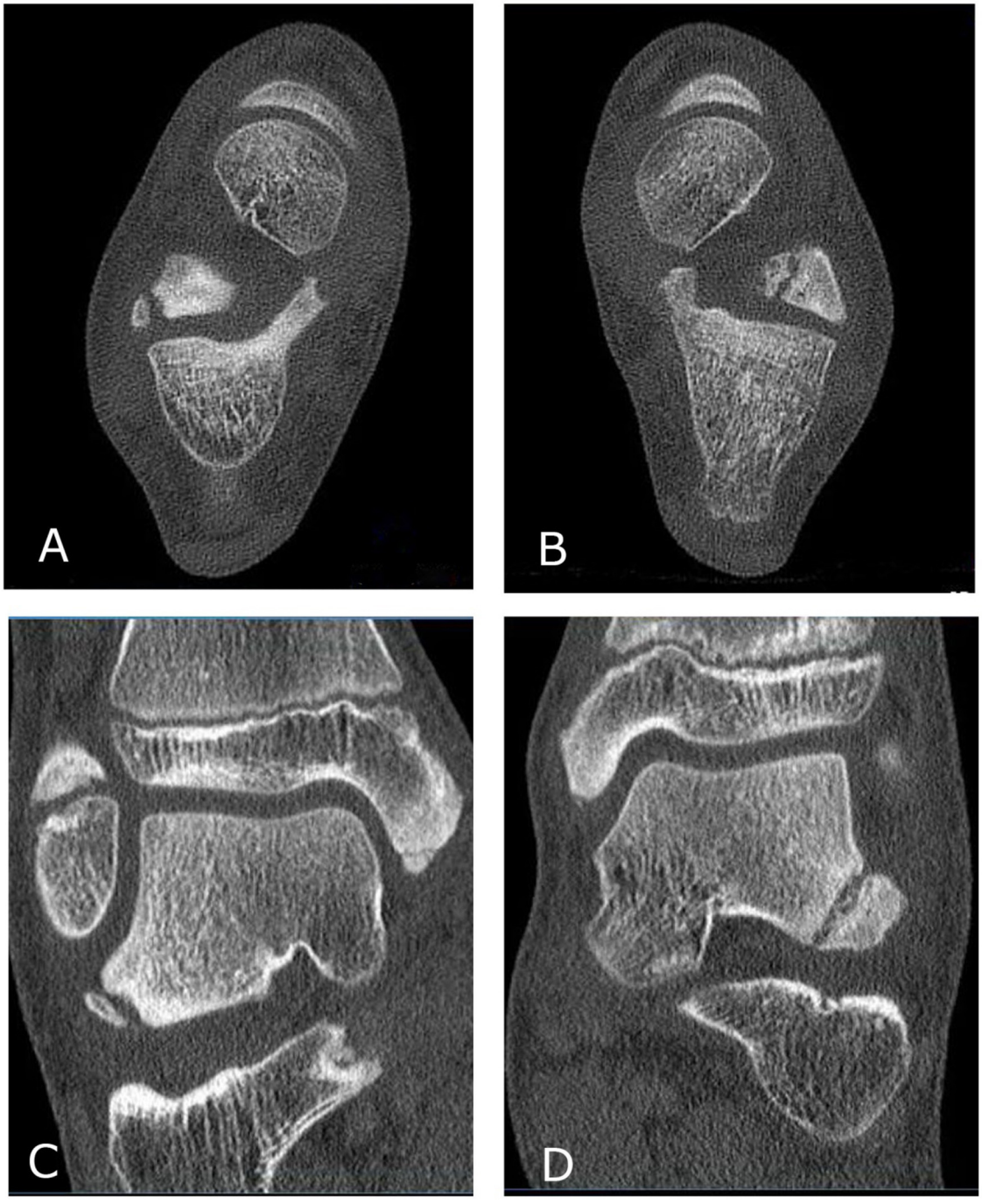

Fig. 1. Computed tomography of both ankles showed a bilateral talus secundarius. A and C: right ankle small rounded ossicle ($7 \times 5 \times 2$ mm). B and D: large fragment ($17 \times 15 \times 10$ mm) with small cysts at the level of synchondrosis.

was removed through a mini-open surgical approach, just distally from the tip of the lateral malleolus. The anterior talofibular ligament and the talocalcaneal ligament remained undisturbed. At the left side it was decided to rigidly fixate the talus secundarius onto the talar body because of its significant contribution to the talocalcaneal surface area. A similar surgical approach was performed as in the right ankle and both the surface of the bony fragment and the talus were debrided, without the need to release the anterolateral ankle ligaments. Compression and fixation were achieved by means of two small fragment lag screws (26 mm 2.5mm).

Postoperative management for both ankles consisted of non-weight bearing below knee casts for 2 weeks. At two weeks follow up the right side was allowed weight bearing as tolerated without immobilization. The left ankle was immobilized for another eight weeks, consisting of a four weeks below knee weight bearing cast and four weeks with a Walker. A prophylactic dose of low molecular weight heparin was prescribed for 6 weeks to prevent thromboembolic events.

At three months follow up, the right ankle had fully healed, whereas the left ankle was still tender on palpation over the anterolateral talus. The wound on both ankles healed uneventfully and there was no injury to the neurovascular structures. Both ankles had a full range of motion, and the patient was allowed to resume sporting activities as tolerated under the supervision of the sports physician and physiotherapist. Postoperative weight

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