A large bone fragment posterior to talus following medial subtalar dislocation

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DESCRIPTION

A 24-year-old man admitted to the emergency department due to an ankle sprain during a football game. In clinical examination, the ankle was grossly deformed and medially rotated. The head of the talus was palpable through the overlying skin. Anteroposterior ankle radiograph showed medial subtalar dislocation (figure 1). Under procedural sedation, subtalar dislocation was successfully reduced with traction and pronation of the foot, while the knee was kept in flexion. Postreduction ankle radiographs and multiplanar CT examination were performed. There was a large bone fragment posterior to the talus which is clearly seen in both

lateral ankle x-ray (figure 2), sagittal and axial CT images (figure 3).

These findings were consistent with the diagnosis of Os trigonum. Plaster cast and symptomatic drug treatment decreased the patient's complaints significantly.

The os trigonum is one of the largest and most common accessory ossicles in the ankle and foot region, located posterior to the lateral tubercle of posterior process of talus, with an estimated prevalence of 1–25%.¹

Fractures of posterior process of talus are rare injuries which result from either direct impingement from the posterior tibial plafond on the

Figure 1 Anteroposterior (A) and oblique (B) radiographs at presentation.

Figure 2 Postreduction anteroposterior (A) and lateral (B) ankle radiographs. White arrow shows the bone fragment posterior to the talus.

To cite: Guler F, Ozyurek S, Turan A, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009262

Figure 3 Sagittal (A) and axial (B) multidetector CT of the ankle. White arrows show the bone fragment.

tubercle or a posterior talofibular ligament avulsion or in association with medial subtalar dislocations.^{1 2} Distinguishing between medial and lateral tubercle fractures and differentiating them from a normal os trigonum can be challenging.^{1–3} These fractures may be misinterpreted as an os trigonum because of the difficulty in assessing the fracture on plain radiographs and similarity in location with os trigonum.¹ The fracture fragment often appears to resemble an os trigonum on lateral radiographs

and is called as 'pseudo os trigonum sign'. The reverse situation is also true.²

Learning points

- Differential diagnosis of a bone fragment posterior to the talus following medial subtalar dislocation includes fracture of posterior process of talus (either lateral tubercle or medial tubercle) and os trigonum.
- It is important to distinguish these two distinct entities because failure to recognise and treat this fracture may lead to instability, pain, stiffness and post-traumatic subtalar degenerative arthritis.
- Multiplanar CT is a reliable imaging modality in the diagnosis, thus it prevents both undertreatment and overtreatment of the patients.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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