Roentgenographic assessment of Achilles tendon rupture

We read with interest the article by Michael and Banerjee* entitled 'Apparent tendo Achilles rupture in the elderly: is routine radiography necessary? The authors 'stressed the need for radiographic assessment of suspected tendo Achilles ruptures in the elderly' and in the following discussion they mentioned that 'it is not routine practice to obtain radiographs when tendo Achilles ruptures is diagnosed' suggesting that radiographic analysis should form part of the 'routine assessment of suspected tendo achilles ruptures in this age group'.

These statements seem to ignore the fact that radiology can be a useful aid in diagnosis of Achilles tendon rupture in young people. A correct diagnosis of Achilles tendon rupture is of the utmost importance because overlooked rupture can often lead to an appreciable loss of function, whereas adequate treatment generally results in good functional conditions. It has been emphasized that as many as 25% of patients with a total rupture of the Achilles tendon were primarily misdiagnosed in the accident and emergency department.2-4 Roentgenographic examination is simple and inexpensive and could be a valuable supplement in the diagnosis of ruptured Achilles tendon in all age groups.

There are many roentgenographic signs of acute rupture of Achilles tendon. Kager's triangle is a space filled with fatty tissue, bordered by margins of the anterior surface of the Achilles tendon, the upper part of the calcaneus, and the posterior surface of the deep flexor tendons.5 When the Achilles tendon is ruptured, the sharp contour of the fat pad in Kager's triangle will disappear. The margins become serrated and indistinct. Also the triangle will become smaller, less transparent, and covered by a network-like shadow. The abnormal roentgenographic features are defined as positive Kager's sign (Figs 1 & 2). Toygar's angle is the angle of the posterior skin surface curve visualized on the roentgen film.6 This angle should diminish in patients with Achilles tendon rupture and is considered pathological if less than 150°.7 Positive Arner's sign—the pathological roentgenographic configuration for rupture of the Achilles tendon—illustrates that the anterior contour of the Achilles tendon curves away from the calcaneus between the insertion of the Achilles tendon at the posterior area of the calcaneus and the upper part of the calcaneus.7 The thickness of the Achilles tendon can also be measured, and a thickness of more than 8 mm with the focus-film distance of 100 cm, should be considered abnormal.

Cetti and Andersen8 have recently investigated the roentgenographic features of the Achilles tendon in...
Letters to the Editor

A. COMBALIA and J. NARDI
‘Department of Orthopaedics and Trauma, Hospital Clinic, University of Barcelona, ‘Department of Orthopaedics and Trauma, Hospital Valle Hebrón, Autonomous University of Barcelona, Barcelona, Catalonia, Spain

REFERENCES


Amphetamine, not MDMA, is associated with intracranial hemorrhage

A case report entitled 'Intracranial haemorrhage associated with ingestion of “Ecstasy”' is fraught with errors.' Chief among these errors are the misleading title and summary, as no ‘Ecstasy’ was involved. The authors define 'Ecstasy' as ‘3–4 methylene-dioxymethamphetamine (MDMA),’ but go on to state that drug analysis revealed the presence of amphetamine, not MDMA. Consideration of MDMA as a possible aetiological agent was purely anecdotal, being derived from history given by a friend to the effect that the patient had 'apparently taken “Ecstasy”'. No information is presented from this friend as to the basis of her

Fig. 2. Lateral ankle roentgenograph in a patient suffering from a rupture of the Achilles tendon. Kager's triangle is small, less transparent, and covered by a network-like shadow. Toygar's angle has decreased and is less than 150°.

patients with acute total rupture, comparing with a reference groups of ankle fractures, ankle sprains and ankles without actual trauma. Kager's triangle was positive for rupture of the Achilles tendon in all patients, 12% had diminished Toygar's angle, 48% had positive Arner's sign, and 78% of patients with ruptured Achilles tendon had a thickness of the tendon compared with the opposite Achilles tendon. To lower the frequency of overlooked Achilles tendon rupture, any doubt as to whether a ruptured Achilles tendon is present should result in a lateral soft tissue roentgenographic examination of the ankle in all age groups. However, many radiographs of the ankle are taken to enable exclusion of fracture, and this does not always lead the physician to a correct diagnosis. The roentgenographic investigation should concentrate on Kager's triangle, which is easily identified and present a good specificity and a fine sensitivity for rupture of the Achilles tendon.

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A Combalia and J Nardi

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