

Case report

Late reconstruction of the anterior tibiofibular syndesmosis for ankle diastasis with talar shift in a 12-year-old boy. A case report

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Abstract

This article describes the reconstruction of the tibiofibular and talocrural joint in a boy with a chronic syndesmotom injury with lateral talar shift. The anterior-posterior radiograph showed a widened medial clear space. MR imaging with an additional double oblique plane depicted an old Wagstaffe's fracture with an intact anterior tibiofibular ligament and a fresh fibular physical fracture, as well as a thickened deltoid ligament and synovitis in the medial joint space. Reconstruction was performed by arthroscopic removal of the synovitis from the medial recessus, followed by fixation of the fibular avulsion of the ATiFL with a staple after a syndesmotom set screw had been placed during compression of the mortise.

One year after reconstruction (and removal of the set screw) the talocrural joint is congruent. The boy has fully recovered and has resumed all sporting activities without complaints.

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1. Introduction

If recognized at the time of injury ankle diastasis with syndesmotom and deltoid ligament injury can be successfully treated in adolescents with placement of a syndesmotom screw followed by plaster immobilization [1].

In patients with chronic syndesmotom instability without ankle fracture, placement of a permanent lag screw or anatomical reconstruction of the anterior syndesmosis has been described [2,3]. For chronic syndesmotom problems after fracture of the ankle late reconstruction may be helpful too [4,5]. For chronic syndesmotom separation without ankle fracture placement of a bone graft to stabilize the distal tibiofibular joint has been described [6]. No reports were found on other ways of treatment of chronic syndesmotom separation with talar shift. We describe the reconstruction of the tibiofibular and talocrural joint in a boy with a chronic syndesmotom injury with lateral talar shift in children.

2. Case report

A healthy 12-year old school boy visited the accident and emergency unit of our hospital after a sprain of the left ankle during gymnastics. He complained of pain in the ankle and inability to bear weight. He could not describe the exact trauma-mechanism, but mentioned to have sustained a similar sprain at the same ankle 8 months before. Then no fracture was seen and the ankle had been immobilized in a below knee plaster for 6 weeks, because of severe pain and swelling. After a course of physiotherapy he had resumed all activities, but complained of pain in the ankle during sporting activities.

Physical examination showed swelling over the anterior syndesmosis, as well as around the lateral and medial malleolus. There was pain over the anterior tibiofibular ligament extending 3 cm cranially, as well as pain over the lateral malleolus and posteriorly over the deltoid ligament. The squeeze test [7], fibula translation test [8] and external rotation test [9] were all positive. The anterior drawer test was negative. At the right ankle all 4 tests were negative.

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Fig. 1. AP radiograph of left injured ankle at the day of the most recent injury. Syndesmotic diastasis with widened medial clear space and lateral translation of the talus.

The anterior–posterior (AP) radiograph showed a widened medial clear space [10,11] due to lateral talar shift (Fig. 1). An AP radiograph of the contralateral ankle showed a congruent talocrural joint (Fig. 2). A lateral ankle radiograph seemed to show no abnormalities, although in retrospect, after CT had been performed, a sclerotic and sharply defined avulsion just anterior and cranial to the fibular physis was seen.

An unsuccessful attempt at closed reduction of the ankle was performed. To display what inhibited reduction a CT of the ankle was made. CT confirmed the widened medial clear



Fig. 2. AP radiograph of contralateral ankle at the day of the most recent injury. Congruent talocrural joint.

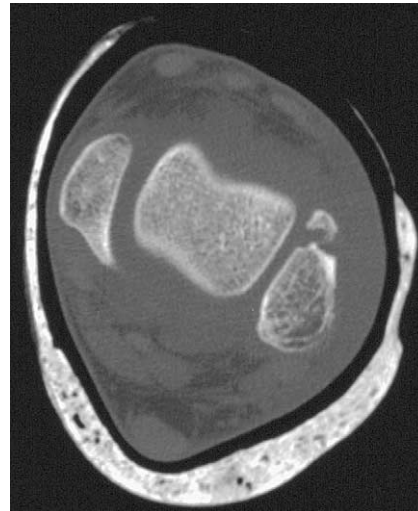


Fig. 3. CT of injured left ankle (axial view). Widened medial clear space and lateral translation of the talus with sclerotic and sharply defined avulsion of fibular attachment of anterior tibiofibular ligament.

space and lateral translation of the talus, but also showed a sclerotic avulsion (Fig. 3) at the site of the fibular insertion of the anterior tibiofibular ligament (ATiFL), as well as a fresh non-displaced fracture through the fibular physis. No further injuries were seen. Since the sclerotic avulsion on CT gave the impression that this was an old injury the radiograph made 8 months before was retrieved. This AP radiograph confirmed that medial joint space widening and talar shift were present at that time (Fig. 4).

To assess the status of the avulsed anterior tibiofibular ligament and to depict the medial side of the talocrural joint MR imaging was performed. A double oblique plane was



Fig. 4. AP radiograph of left injured ankle made 8 months before the most recent injury. Widened medial clear space and lateral translation of the talus.

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