

Postoperative Repeat Dislocation of the Posterior Tibial Tendon: A Case Report



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ABSTRACT

Dislocation of the posterior tibial tendon is an uncommon condition. Although surgery is usually performed in most cases of posterior tibial tendon dislocation, postoperative repeat dislocation of the posterior tibial tendon has not been reported in the published data. We report the case of a 27-year-old male patient who experienced repeat dislocation of the posterior tibial tendon after a gymnastic landing, 44 months after initial retinaculum repair. For revision surgery, we reconstructed the flexor retinaculum in conjunction with deepening of the retromalleolar groove, because the groove was hypoplastic. He returned to competitive gymnastics and had not experienced subluxation or dislocation of the posterior tibial tendon at the 1-year follow-up examination.

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Dislocation of the posterior tibial tendon (PTT) is a relatively rare type of ankle injury (1–3). Previous reports have described various predisposing factors for dislocation, including failure of the flexor retinaculum, shallow retromalleolar groove, and medial malleolus fracture (4–6). Surgical treatment, such as the repair or reconstruction of the flexor retinaculum and deepening of the retromalleolar groove, has usually been applied, providing good clinical results (1). However, no published data could be found on postoperative repeat dislocation of PTT requiring revision surgery. We present a rare case of a traumatic postoperative PTT repeat dislocation that was successfully treated with flexor retinaculum reconstruction and retromalleolar groove deepening.

Case Report

A 27-year-old male gymnast presented with a subluxation of the PTT. He had initially injured his right ankle in a vault landing when he was 22 years old. Traumatic dislocation of the PTT was diagnosed, and a flexor retinaculum repair was performed in the hospital where he was diagnosed. He had completely returned to competitive gymnastics 1 year later. His postoperative course was good, with only a slight

swelling and a snapping sound around medial side of the ankle after exercise remaining.

At his current presentation, he had injured the right ankle, again in a vault landing. His ankle had been forced into dorsiflexion and eversion. He had experienced a sensation of dislocation and pain in the right ankle at the injury. After a performance, he noted swelling and subcutaneous bleeding around his medial malleolus. He presented with subluxation of the PTT during dorsiflexion. When he was examined at our clinic, swelling and tenderness were seen around the posterior aspect of the medial malleolus. His range of motion was 25° in dorsiflexion and 45° in plantarflexion. He experienced grinding around the posteromedial aspect of the ankle during motion. The PTT was unstable in manual testing; however, he was not able to demonstrate dislocation of the PTT during ankle motion. Plain radiographs showed slight osteophyte formation at the posterior aspect of the talus. Plain and 3-dimensional computed tomography scans showed a flat retromalleolar sulcus. A volume-rendered image demonstrated that the PTT was located on the groove (Fig. 1). Magnetic resonance imaging showed no evidence of tendon rupture or osteochondral lesion. Ultrasonography revealed that the PTT was located on the flattened retromalleolar sulcus and was slightly shifted medially. The flexor retinaculum was thickened. Flattening of the PTT and irregularity of the sulcus surface were observed compared with the contralateral side. Instability of the PTT was present during ankle motion with the patient in the supine position (Fig. 2).

The patient agreed to undergo surgery, and straight 6-cm incisions were made on the posteromedial side of the ankle using a previous

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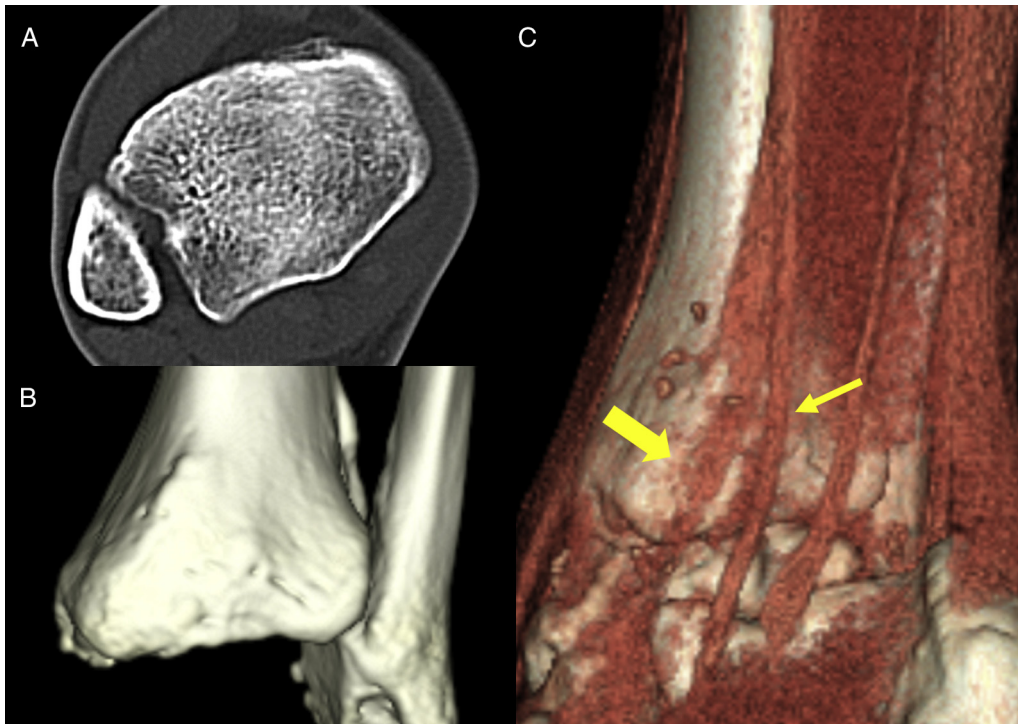


Fig. 1. Preoperative plain and 3-dimensional computed tomography scan showing a flat retromalleolar groove. (A and B) The posterior tibial tendon (*thick arrow*) lies on the flattened groove in a volume-rendered image. (C) View of a flexor digitorum longus tendon (*thin arrow*).

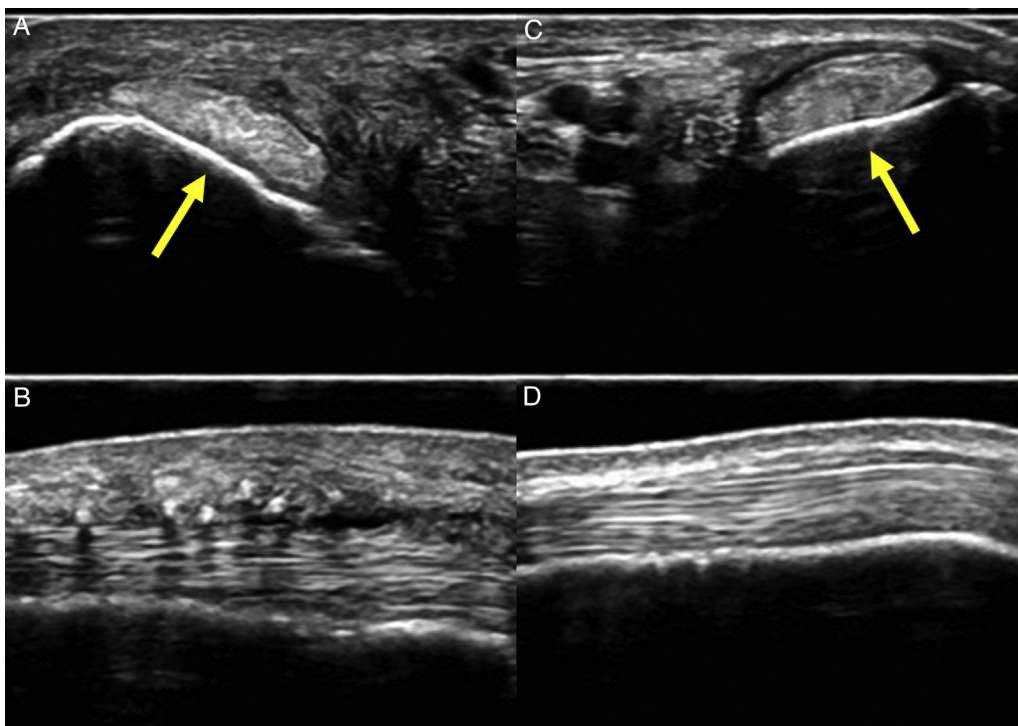


Fig. 2. Transverse (A and C) and longitudinal (B and D) ultrasound images of the posterior tibial tendon (PTT) (*arrows*). On the affected side (A and B), the PTT had shifted medially and flattened. The distance between the PTT and flexor digitorum longus tendon was longer than that on the contralateral side. The flexor retinaculum was thickened, and some stitches used in the previous surgery can be seen as hyperechoic dots. An irregularity of the groove surface and a slight loss of the normal fibrillary pattern can be seen. On the contralateral side (C and D), the PTT was located in the retromalleolar groove. The flexor retinaculum showed normal thickness and inserted onto the medial edge of the groove.

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