



# Posterior tibial tendoscopy: Description of an accessory proximal portal and assessment of tendon vascularization lesion according to portal

X. Roussignol MD<sup>a,\*</sup>, B. Lagrave MD<sup>a</sup>, S. Berthiaux MD<sup>a</sup>, F. Duparc MD, PhD<sup>b</sup>, F. Dujardin MD, PhD<sup>a</sup>

<sup>a</sup> Department of Orthopedic Surgery, Charles Nicolle University Hospital, Rouen, France

<sup>b</sup> Anatomy Laboratory, Faculty of Medicine, Rouen University, 22 Boulevard Gambetta, 73183-1 Rouen, France

## ARTICLE INFO

### Article history:

Received 31 January 2012

Received in revised form 11 July 2012

Accepted 12 August 2012

### Keywords:

Tendoscopy  
Posterior tibial tendon  
Vincula  
Surgical technique

## ABSTRACT

**Background:** Posterior tibial tendoscopy was codified in 1997 by Van Dijk, who described a portal between 1.5 and 2 cm proximally and distally to the tip of the medial malleolus. However, this approach does not allow proximal exploration of the posterior tibial tendon (PTT). We here describe an accessory portal 7 cm proximal to the medial malleolus, enabling complete PTT exploration.

**Methods:** Posterior tibial tendoscopy was performed on 12 cadaver specimens, mapping PTT exploration and vascularization.

**Results:** The accessory portal enabled the whole PTT to be explored, from the myotendinous junction to the entry into the retromalleolar groove. PTT observation quality was improved compared to using a submalleolar portal. Dissection confirmed systematic presence of a vincula on the posterior side of the tendon, connected to the flexor digitorum longus (FDL) tendon, containing collateral vessels of the posterior tibial artery. None of these elements were damaged by the tendoscopy as long and the scope and motorized instruments were not rotated on the posterior side of the supramalleolar part of the PTT.

**Conclusions:** This accessory entry portal provides complete PTT exploration without the risk of neurovascular bundle lesion.

© 2012 European Foot and Ankle Society. Published by Elsevier Ltd. All rights reserved.

## 1. Introduction

Ankle tendoscopy is a recent technique. Its advantages over open techniques include low postoperative morbidity, less blood loss, shorter hospital stay, faster rehabilitation, lower costs and a decreased complication rate [1–4].

The first posterior tibial tendon (PTT) tendoscopy was performed in 1994 by Wertheimer [5]; in 1997, Van Dijk [6] described the procedure. PTT tendoscopy is usually considered following failure of medical management of tendinopathy with associated inflammation and fissure [7,8]; some authors, however, have recently recommended it in PTT tear, enabling minimally invasive surgery using the endoscope to perform synovectomy on either side of the tear [9].

Van Dijk recommended 2 portals, between 1.5 and 2 cm proximally and distally to the medial malleolus. These, however, do not allow exploration or surgical procedures (debridement, or synovectomy) in the proximal part of the PTT. According to Van Dijk, exploration was feasible up to 6 cm proximally to the tip of the medial malleolus. In 2010, Reilingh [10] modified the portals,

situating them between 2 and 3 cm from the tip of the medial malleolus.

We here recommend a 3rd, accessory, portal 7 cm proximally to the medial malleolus, enabling complete PTT exploration up to the myotendinous junction.

A cadaveric study was performed in an anatomy laboratory to map tendoscopic PTT exploration and confirm the absence of neurovascular bundle lesion induced by the passage of the endoscope through the sheath. PTT vascularization was analyzed, to map the possibilities for advancing the instruments in the sheath.

## 2. Method

Twelve fresh cadaver specimens were provided for the study by the Anatomy Department of Rouen University (France). None had any history of hindfoot or ankle surgery.

Ankle motion was required to be at least 15° dorsiflexion and 30° plantar flexion.

A 4-mm DYONICS endoscope was used, angled at 30°.

Three portals were performed (Fig. 1): portal A, 3 cm distally to the medial malleolus; and portals B and C, respectively 3 and 7 cm proximally.

\* Corresponding author.

E-mail address: [xavier.roussignol@chu-rouen.fr](mailto:xavier.roussignol@chu-rouen.fr) (X. Roussignol).



Download English Version:

<https://daneshyari.com/en/article/4054692>

Download Persian Version:

<https://daneshyari.com/article/4054692>

[Daneshyari.com](https://daneshyari.com)