

Case Report

BILATERAL VARIATIONS IN TENDONS OF DORSUM OF FOOT

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ABSTRACT

Anterior or extensor muscles of foot comprises Peroneus tertius (PT), Extensor digitorum longus (EDL), Extensor hallucis longus (EHL) and Tibialis anterior (TA). Presence of PT in many of the primates and humans suggests terrestrial bipedalism. PT is a dorsi-flexor of ankle joint and a weak evertor of foot. TA is the most medial and superficial dorsiflexor. Standard text-books describe the course of tendon of TA as passing deep to inferior extensor retinaculum (IER).

In the present study, absence of PT with a course of TA superficial to IER on one side with variant origin of PT from Extensor digitorum longus on the other side were observed in an adult female cadaver. Knowledge on variations in PT and TA are of clinical significance and academic importance to orthopedic surgeons, radiologists and anatomists.

KEYWORDS: Peroneus tertius; Extensor digitorum longus; Tibialis anterior; Variations.

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INTRODUCTION

The order of arrangement of tendons on the dorsum of foot from lateral to medial are Peroneus tertius (PT), Extensor digitorum longus (EDL), Extensor hallucis longus (EHL) and Tibialis anterior (TA). The muscular bellies originating from the proximal parts of bones of leg become tendons in the distal part and pass deep to the extensor retinacula at the ankle to get inserted into the bones of foot.

Peroneus tertius (PT) is a small unipennate muscle of anterior compartment of leg and is unique to humans among primates [1]. It is absent in other primates and its presence in man is an evidence of evolution and supports its function of terrestrial bipedalism. It is occasionally found in apes and gorillas [2]. With evolution, the frequency of presence of PT has increased and is found in 95% of the human population [2].

Peroneus tertius is also called fibularis tertius (FT) [3]. The muscle arises from lower one - fourth of medial surface of shaft of fibula, adjacent anterior surface of interosseous membrane and anterior crural intermuscular septum. After passing beneath superior extensor retinaculum, it is inserted into dorsal surface of base of 5th metatarsal bone and may have a thin expansion usually extending forwards along the medial border of shaft of 5th metatarsal bone or shaft of 4th metatarsal bone or base of 4th metatarsal [3].

PT is often considered as a continuation of origin of EDL or 5th tendon of EDL [3]. Though it is closely associated with EDL it has been considered as migrated part of Extensor digitorum brevis (EDB) of little toe [4] or it represents extensor digiti minimi with displaced insertion to the base of 5th metatarsal [5].