

An Abnormal Relationship in Tarsal Tunnel: Case Report

Tarsal Tünelde Anormal Bir İlişki: Olgu Sunumu

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ÖZ

Tarsal tünel hakkında şimdiye kadar verilen tüm bilgiler hem önemli hem de değişkendir. Bu durumun nedeni tarsal tünelde n. tibialis ve dalları, arteria tibialis posterior, vv. tibiales posteriores ve bazı tendonlar gibi birçok yapının bulunmasıdır. Rutin bir diseksiyon sırasında, bir erkek kadavranın sağ tarafında n. tibialis ile rr. calcanei mediales arasında anormal bir ilişki gözlemlendi. Bu vakamızda, rr. calcanei mediales' nin diğer dalları ile bağlantı kuran bir varyatif durumu gösterip ve bu durumun klinik önemini tartışacağız.

Anahtar Kelimeler: ramus communicans; medial calcaneal sinir; tarsal tünel; nervus tibialis

ABSTRACT

All the information about the tarsal tunnel so far is both important and variable. The reason for this situation is that there are many structures in the tarsal tunnel, such as tibial nerve and its branches, posterior tibial artery, posterior tibial veins and some tendons. During routine dissection, we found an abnormal relationship between the tibial nerve and medial calcaneal nerve (MCN) on the right side of a male cadaver. In this case, we would show a variant condition that communicates with other branches of rr. calcanei mediales and discuss its clinical significance.

Keywords: communicating branch; medial calcaneal nerve; tarsal tunnel; tibial nerve

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INTRODUCTION

There are several articles about the medial calcaneal nerve, which supplies the superficial fascia of the heel and medial side of the sole.¹ The tibial nerve usually gives off three branches which are called as medial plantar nerve, lateral plantar nerve and medial calcaneal nerve around the foot and ankle.² MCN has many variations according to its numbers and origination points. Generally, MCN arises from tibial nerve, lateral plantar nerve, or bifurcation point of the tibial nerve.³ Even though types of the branching pattern is highly variable, the highest number of the types found is 21.⁴

CASE REPORT

During a routine dissection for education, the MCN was observed with its abnormal branch which has the communicating branch on the right side of a male cadaver. The superficial fascia and the flexor retinaculum were carefully removed. The bifurcation of the tibial nerve and MCN were observed under the distal part of the flexor retinaculum. The communicating branch was found between the tibial nerve and MCN (Figure 1). There was no variation in the other parts.

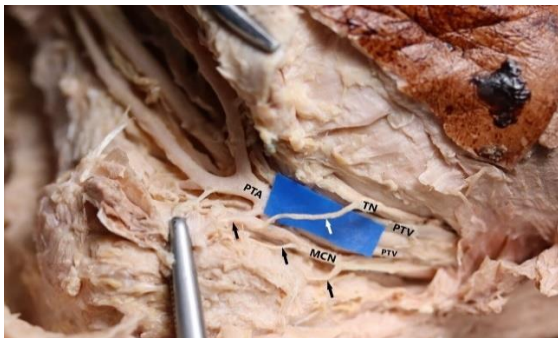


Figure 1. the communicating branch (white arrow) between tibial nerve and MCN, other branches of MCN (black arrows), TN: tibial nerve, PTA: posterior tibial artery, PTV: posterior tibial veins

DISCUSSION

In this case, MCN has four branches. Although three of them are normal, one of them is a communicating branch.

Normally, MCN has 4 branches at approximately 3.3 percent.³ Compression of the tibial nerve and its branches by different structures, such as neuroma, surgical scar tissue causes tarsal tunnel syndrome which is a sort of neuropathy.^{3,5} The knowledge of tibial nerve distribution and contents of tarsal tunnel are very important for surgical procedures like external nailing of tarsal bones. And the information about motor branching of the muscles of the foot sole may decrease surgical complications.⁶ On the other hand, the exact location and branching patterns of the neurovascular bundle in the tarsal tunnel are very essential for clinical situations such as heel pain, avascular necrosis of the talus, etc.⁷

Conflict of Interests

The authors declare that there is no conflict of interest.

Authors' Contributions

Concept/Design: AE, BK. Data Collection and Processing: AE, BK. Data analysis and interpretation: AE, BK. Literature Search: BK. Drafting manuscript: AE, BK. Critical revision of the manuscript: AE, BK. Supervision: AE.

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