Accessory slip of tibialis anterior muscle- A cadaveric case report

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ABSTRACT
During routine dissection classes in 2014 in the Department of Anatomy, an anomalous insertion of the tibialis anterior tendon was observed on the left side of a formalin-fixed cadaver of a middle aged man without any trace of scars, adhesions or signs of trauma or operation. The tibialis anterior is an important muscle because of its function and its use in tendon transfer as a treatment of recurrent congenital clubfoot and paralytic equinovarus foot deformities in cerebral palsy and arthroscopy. The present case report describes the accessory slip of tibialis anterior muscle in a middle aged male cadaver during routine dissection of left leg and dorsum of foot. The slip was 12.7 cm and originated deep to inferior retinaculum and inserted on to the head of first metatarsal.

KEYWORDS: Tibialis anterior, Tendon, Inferior retinaculum.

CASE REPORT
During routine cadaveric dissection of a middle aged male cadaver at JLN Medical College, Ajmer, Rajasthan, India, a variation was observed in the tendon of tibialis anterior muscle unilaterally on the left side. The muscle was dissected carefully to expose it from its origin, course and insertion. The usual insertion of tibialis anterior is on to the medial and inferior surface of medial cuneiform and adjoining part of base of the first metatarsal. Variations in attachments of tibialis anterior have been recorded by previous authors as attachment to talus, first metatarsal head or base of the proximal phalanx of hallux. But in the present study, the tendon gave off an accessory slip which was arising deep to inferior extensor retinaculum and got inserted onto the head of first metatarsal bone. Length of the slip was 12.7 cms.

DISCUSSION
As the tendon of tibialis anterior is important for surgeons and orthopaedicians there is a need for awareness of variations in this area. Tibialis anterior is the primary dorsiflexor of the ankle and an adequate knowledge of its normal anatomy and variations in attachments and course is required for clinicians. Ebraheim et al. (2003) found the muscle to be a relatively easy flap to use for covering anterior tibial open wounds. It is also used in tendon transfer as a treatment of recurrent congenital clubfoot and paralytic equinovarus foot deformities in cerebral palsy and arthroscopy. Thompson et al. (2009) stated that recurrent dynamic and Structural deformities following clubfoot
surgery are commonly due to residual muscle imbalance from a strong tibialis anterior muscle and weak antagonists. They used the tibialis anterior tendon transfer to restore muscle balance in recurrent clubfoot.\textsuperscript{10} Tibialis anterior tendon can also be used as a distal landmark for extra medullary alignment in total knee arthroplasty. Using this tendon as distal landmark eliminates any interobserver variability by providing an easily palpable fixed anatomical structure.\textsuperscript{11} Transfer of tibialis anterior into the talus has been utilized for correction of vertical talus, as well as for paralytic valgus foot deformities.\textsuperscript{12}

Anson observed accessory slips to cuneiforms, metatarsals and phalanges.\textsuperscript{13} The slip of the tendon may go to other bones such as talus, head of first metatarsal or base of proximal phalanx of hallux.\textsuperscript{14} According to Christopher Bibbo (2004) the accessory tendon was present in 26 of 32 feet (81.25\%) with accessory tendon originating from Extensor Hallucis longus in 92.3\% and from Tibialis Anterior in 7.7\%. 100\% of accessory tendon inserted onto the dorsal / dorsomedial aspect of the first metatarsophalangeal joint capsule.\textsuperscript{15} In the present study, accessory slip of tibialis anterior was found arising deep to inferior retinaculum and got inserted onto the head of first metatarsal.

REFERENCES
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