

Peroneus tertius: An inappropriate muscle for electromyographic studies of axonal polyneuropathy

Sir,

I read with great interest the article “assessment of electromyographic findings in peroneus tertius (PT), tibialis posterior, and dorsal interosseous pedis muscles in patients with axonal polyneuropathy (APN)” written by Dr. Ghasemi *et al.*^[1] in a recent issue of *Advanced Biomedical Research* journal.

It was concluded the usefulness of PT muscle against tibialis posterior and dorsal interosseous pedis muscles for electromyographic studies in patients with APN. It was due to the higher frequency of polyphasic motor unit action potentials, the higher frequency of fibrillation potentials, and finally, the ability of all patients in activation of PT voluntarily. A stronger tendency toward the use of PT as the muscle of choice in electromyographic study of APN patients was concluded.

The PT is a part of the anterior leg region and is considered as a derivation of the extensor digitorum longus (EDL) muscle,^[2] even called as the fifth tendon of this muscle.^[3]

Indeed PT is a muscle with great variation as reported in different studies. A recent study performed in Chile reported only a prevalence of PT in 49.11% of 168 individuals.^[4] Another study, which was carried out between 110 subjects, which found PT in 89.55% of subjects.^[5]

The test maneuver for recruiting PT is dorsiflexion along with eversion. Placing the needle too medially may insert it to extensor hallucis longus muscle and placing it too proximally may insert the needle to tibialis anterior or EDL muscles. All of these muscles may recruit with ankle dorsiflexion. In this study, the proper method for inserting the needle to enhance the accuracy and recruiting the right muscle did not mention.

In addition, according to its normal variation, it may be better to evaluate another appropriate muscle other than PT for diagnosis of APN. Because, its absence in some individuals may just disturb them by trying to find the muscle!

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