ULTRASONOGRAPHY MAY BE MORE VALUABLE FOR THE DIAGNOSIS OF MERALGIA PARESTHETICA WITH NORMAL ELECTRODIAGNOSTIC STUDY

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INTRODUCTION

- Meralgia paresthetica is an entrapment neuropathy of the lateral femoral cutaneous nerve (LFCN) at the level of the inguinal ligament. The LFCN, which is a pure sensory nerve, arises from the L2 and L3 spinal nerve roots and innervates the lateral thigh. There are many variations in the course of the LFCN.
- External compression of the LFCN may induce meralgia paresthetica. Tight-fitting pants or a tight belt may cause meralgia paresthetica, especially in a thin person with an anatomical variation of the LFCN.
- Meralgia paresthetica usually causes the following symptoms: paresthesia, numbness, burning sensation, dysesthesia, and pain over the anterolateral aspects of the thigh.
- Although there are several reports on the confirmatory role of electrodiagnostic studies in the diagnosis of MP, a clinician would usually prefer not to perform nerve conduction studies in daily clinical practice.
- However, attempts to establish a reliable technique for accurate sensory nerve conduction study of the LFCN have been limited by poor reproducibility, high inter-side variability, and/or absent responses, particularly in obese subjects.
- In recent years, ultrasonography has been shown to be a powerful tool for the visualization of very small peripheral nerves.

Case

- A previous healthy 51-year-old man complained of tingling and paresthesia on anterolateral region of his left thigh for 6 months.
- Physical examination revealed hypoesthesia of the proximal anterolateral thigh on the left side. Assessment of lower extremity strength and deep tendon reflexes were normal. The straight leg raise test results were normal. A Tinel sign around anterior superior iliac spine (ASIS) was negative.
- Nerve conduction study results of the peroneal, tibial, and sural nerves including LFCN were normal (Fig. 1).
- Ultrasound (ACUSON S2000, Siemens Medical Solutions, USA) with 6-18 MHz linear array transducer revealed an increase in the cross-sectional area of left LFCN lateral to ASIS (Fig. 2A) comparing to lower to ASIS (Fig. 2B) and the right LFCN (Fig. 2C).

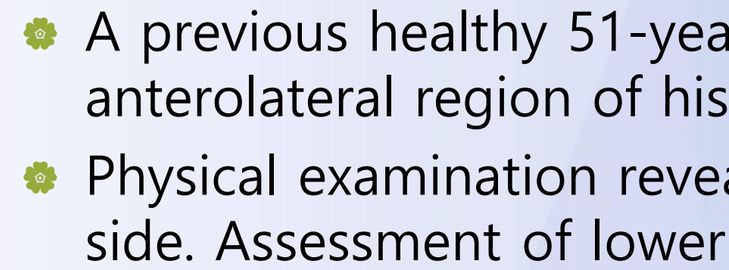

Fig. 1 NCS findings of LFCN

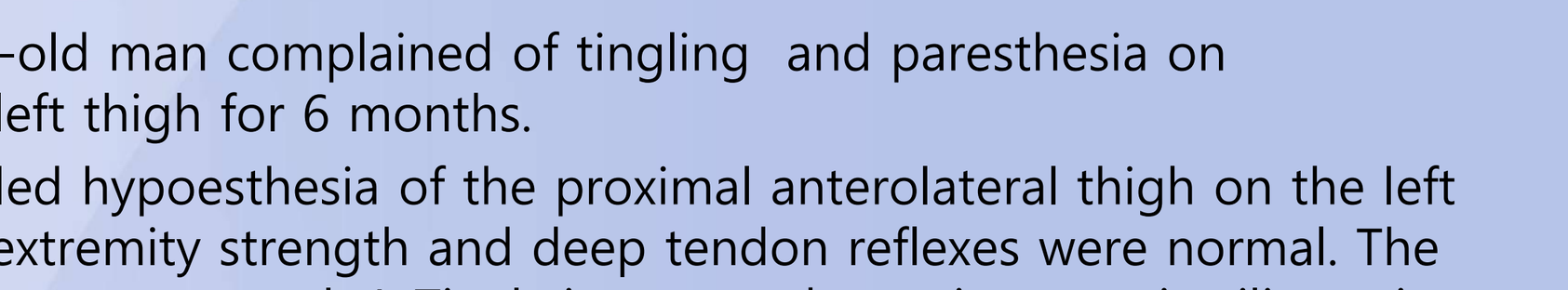

Fig. 2 Ultrasonographic findings of LFCN

Discussion

❖ The electrophysiological studies of meralgia paresthetica performed to confirm the diagnosis of LFCN neuropathy depends mainly on the demonstration of sensory nerve conduction abnormalities of the involved nerve.

❖ The evaluation of the conduction abnormalities of the LFCN is difficult to interpret because of the frequently observed anatomical variations, as well as the technical difficulty arising from excess fatty tissue, especially in obese patients.

❖ Ultrasonography should be considered complementary to the electrophysiological studies. Ultrasonography has the advantage of showing the course and morphologic changes of the LFCN and can guide nerve blocks.

❖ This case indicates ultrasonography may be an alternative diagnostic method in meralgia paresthetica, even with the normal electrodiagnostic study.