INTRODUCTION

Generally, lumbar disk herniation (LDH) with foot drop is an indication for early decompressive surgery. However, even for cases of painless foot drop or foot drop with numbness, examinations are necessary to distinguish them from other diagnoses including peroneal nerve palsy, sciatic nerve mononeuropathy, lumbosacral plexopathy, polyneuropathy, and severe L5 radiculopathy. We report here an unusual case of Charcot-Marie-Tooth (CMT) disease initially presenting with unilateral foot drop with foot numbness.

CASE REPORT

A 57-year-old woman, presenting with left leg weakness and foot numbness, visited our hospital for surgery after being diagnosed with LDH at a local hospital. The patient was treated with neuroplasty twice at the local hospital, but did not show symptom improvements. Microdiscectomy was recommended. On neurological examination, left ankle dorsiflexion weakness (grade III) and knee extension weakness (grade IV) with foot numbness were observed. Additionally, we found foot deformity (muscle atrophy, high arch, and clawed toes) (Fig. 1). MRI of the lumbar spine showed LDH at L4–5 (Fig. 2). Her neurological status and symptoms were not correlated with L5 radiculopathy. To obtain a differential diagnosis, we performed further examinations. To evaluate neuropathy or myopathy, we performed an electrophysiological study. Electrophysiological findings were consistent with chronic peripheral motor-sensory polyneuropathy (axonopathy). In genetic testing, 17p11.2-p12 duplication/deletions characteristic of CMT disease were observed. We confirmed the patient's diagnosis as CMT disease and used conservative treatment.

Key Words: Charcot-Marie-Tooth disease · Foot drop · Lumbar disk herniation.
male-to-male transmission as an X-linked dominant trait, is characterized by no
in mind that X-linked Charcot-Marie-Tooth (CMTX1), trans
patterns could be useful, of which autosomal-dominant inheri
geons could misdiagnose a patient with CMT disease.
patients with spinal myelopathy or radiculopathy, spine sur
sclerosis, and some patients have skeletal deformities, including sco
reduced or absent following the same distal to proximal gradi
esthesia, numbness, and radiating pain are common, leading to
nerve pathologies, sciatic nerve mononeuropathy, lumbosacral
these diseases should be excluded expeditiously, because severe
cases of LDH could show progressing weakness coupled with a
gradual reduction of pain. In our case, the patient had extruded
LDH, which confused the cause of the foot drop for physicians
hand, shows less severe conducting slowing and may even exhibit no such slowing at all (>38 m/s) in CMT2\cite{9,14,15}. Additionally, molecular tests are necessary to confirm CMT. However, we did not perform this test in our case. Nerve biopsy shows characteristic focal hypermyelination involving many internodes that cause segments of thickened myelin resembling links of sausage (tomaculi), hence its original name of tomaculous neuropathy\cite{9,10}.

Spine surgeons should be aware that painless foot drop or foot drop with nonspecific numbness could be caused by perineal nerve palsy, sciatic nerve mononeuropathy, lumbosacral plexopathy, polynuropathy, and severe L5 radiculopathy\cite{9,10,15}. These diseases should be excluded expeditiously, because severe cases of LDH could show progressing weakness coupled with a gradual reduction of pain. In our case, the patient had extruded LDH, which confused the cause of the foot drop for physicians at a local hospital. Indeed, elderly or middle-aged patients may have asymptomatic LDH or stenosis\cite{9,12}, we should therefore be cautious about deciding on spine surgery for patients with a degenerative spine.

CONCLUSION

When we treat patients with painless foot drop or foot drop with numbness, we recommend careful diagnosis. It is necessary to distinguish between various diseases, such as peripheral neuropathy and severe radiculopathy. In addition, CMT should be considered as a cause, although its incidence is rare, because its various symptoms are similar to spinal disease or peripheral neuropathy.

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