신경근육재활 및 전기진단

게시일시 및 장소 : 10 월 18 일(금) 13:15-18:00 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 15:45-16:30 Room G(3F)

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Compressive peroneal neuropathy by an intraneural ganglion cyst combined with L5 radiculopathy

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Introduction

Most cases of foot drop are known to result from lower motor neuron pathologies, especially lumbar radiculopathy and peripheral neuropathy, including common peroneal neuropathy. To improve the prognosis of foot drop, it is important to quickly and accurately diagnose the etiology and provide appropriate treatment.

Patient concerns

A 65-year-old female patient with a history of herniation of intervertebral disc on L4-5 presented with right foot drop starting 1 month previously.

Diagnosis

An electrodiagnostic examination confirmed that the patient had common peroneal neuropathy combined with L5 radiculopathy, with the former being the main cause of foot drop. The patient was further diagnosed with an intraneural ganglion cyst in the common peroneal nerve as determined by MRI of the knee.

Interventions

The patient was treated by ultrasound guided percutaneous cyst aspiration and corticosteroid injection into the decompressed ganglion, followed by strengthening exercise, electrical stimulation therapy, and prescription of an ankle foot orthosis.

Outcomes

We confirmed some regeneration of the injured peroneal nerve in a 12-week follow-up electrodiagnostic examination. Manual motor power test demonstrated an increase in ankle dorsiflexor function score by one grade.

Conclusion

Diagnosing the cause of foot drop can be difficult with multiple co-existing pathologies, and consideration of various possible etiologies is key for appropriate diagnosis and treatment. In addition to imaging modalities such as MRI, electrodiagnostic examination

can help to improve diagnostic accuracy. Intraneural ganglion cyst of the common peroneal nerve is rare, but should be considered as a possible cause of foot drop.

Table 1. Results of Nerve Conduction Studies

	Nerve	Stimulation site	Latency (ms)	Amplitude (mV)	NCV (m/s)
Motor	Rt Peroneal (EDB recording)	Ankle	4.1	1.8	
		Fibula head	10.9	1.3	43
		Popliteal fossa	No potential	No potential	
	Rt Tibial (AH recording)	Ankle	3.8	12.9	
		Popliteal fossa	10.8	12.7	49
Sensory	Rt superficial peroneal		No potential	No potential	
	Rt sural		3.7	14	38

Rt, Right; EDB, Extensor Digitorum Brevis; AH, Abductor Hallucis; NCV, Nerve Conduction Velocity

Table 2. Results of needle electromyography

Muscle	Insertional activity	Denervation potentials		Volitional MUAP	Maximal volitional activity
		Fibs	PSWs		
Rt Vastus medialis	Normal	None		Normal	Full
Rt Tibialis anterior	Increased	1+	1+	Normal	Single unit
Rt Peroneus longus	Increased	1+	2+	Normal	Marked reduced
Rt Gastrocnemius	Normal	None		Normal	Full
Rt Tibialis posterior	Increased	-	1+	Normal	Full
Rt Extensor hallucis longus	Increased	1+	2+	Normal	Single unit
Rt L5 paraspinalis	Increased	-	1+		

Rt, Right; Fibs, Fibrillation Potentials; PSWs, Positive Sharp Waves; MUAP, Motor Unit Action Potential

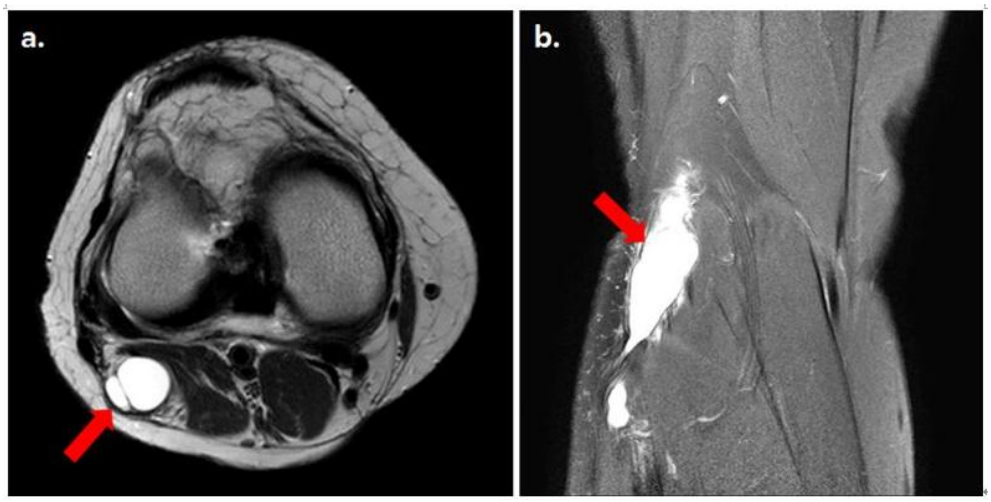

Figure 1. T2-weighted magnetic resonance imaging of the knee. (a) Axial image at the distal femur level, (b) coronal image of the popliteal fossa. Arrows indicate multiloculated cystic lesion in common peroneal nerve.