

신경근육재활 및 전기진단

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Predictive Value of H-reflex in S1 radiculopathy using fluoroscopy-guide TFESI

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Introduction

H-reflex is routinely used in to electrophysiologically diagnose S1 radiculopathy. However, there are some cases in which the clinical symptoms and/or the findings of imaging studies suggestive of S1 radiculopathy do not correlated with H-reflex parameters.

Objective

Predictive value of H-reflex in patients with L5 and/or S1 radiculopathies due to disc herniation was analyzed using fluoroscopy-guide transforaminal epidural steroid injection (TFESI).

Patients and Method

A retrospective chart review was done on 85 patients (mean age 56.5 years) who complained of more than 3 months of low back pain and/or radicular pain to ipsilateral lower extremity. Of them, subjects who had polyneuropathy such as diabetes mellitus, previous spine surgery were excluded. Each subject underwent MRI of lumbosacral spine, electrodiagnostic study, and fluoroscopically-guided TFESI. Of the remaining 60 patients, no responses or delayed latency (more than 1.5 ms) of H-reflex were 34, thus given S1 TFESI (abnormal H-reflex group). 26 patients with normal H-reflex were injected L5 TFESI (normal H-reflex group) (Table 1). Post-injection pain was compared with pre-injection one, and grouped as effective (more than 50% decrease of pain score) or not-effective group (less than 50%).

Result

Sensitivity of H-reflex in S1 radiculopathy was 51.43%, specificity 36%, positive predictive value 52.94%, and negative predictive one was 34.62%.

Conclusion

Predictive value of H-reflex in diagnosis of S1 radiculopathy confirmed by fluoroscopy-guide TFESI might have moderate validity, thus typical symptom and/or sign such as decreased ankle jerk also should be considered in diagnose S1 radiculopathy.

Table 1. Patient Groups and Intervention Outcomes ^a		
	Abnormal ^b H-reflex group ^c (n=34) ^c	Normal H-reflex group ^c (n=26) ^c
Pain ^c		
Pre ^c	5.7 ± 2.0 ^c	6.2 ± 1.0 ^c
Post ^c	3.2 ± 1.4 ^c	3.5 ± 1.6 ^c
<i>P</i> value ^c	0.000 ^c	0.000 ^c
Efficacy of intervention ^c		
Effective ^c (≥ 50% pain relief) ^c	18 ^c	17 ^c
Not-effective ^c (< 50% pain relief) ^c	16 ^c	9 ^c
Predictive value (%) ^c	52.9 ^b ^c	34.6 ^d ^c

Data presented as mean ± SD, or n, or %.^c

a) Abnormal included patients with delayed latency (more than 1.5 ms) and no responses of H-reflex. Abnormal H-reflex group received injection in S1, whereas normal H-reflex group received in L5.^c

b) Positive predictive value^c

c) Negative predictive value^c