

신경과 질환에서 주기성하지운동과 하지불안증후군

Periodic Limb Movement and Restless Legs Syndrome in Neurological Disorders

이 일근¹Il-Keun Lee¹**ABSTRACT**

The periodic limb movement (PLM) disorder is a disease of motor sign mainly in the lower extremities, whereas the restless leg syndrome (RLS) accompanies sensory symptoms in the lower extremities. These two disorders may occur in the one patient, which implies possible common pathophysiological background in those disorders. The aim of this article is to review the clinical features, diagnostic criteria, electrophysiological characteristics of the two disorders and their relation to neurological disorders. *Sleep Medicine and Psychophysiology* 2000 ; 7(2) : 84-87

Key words: Periodic limb movement (PLM) · Restless leg syndrome (RLS) · Neurological disorders.

서론

(periodic leg movement disorder, PLMD) (restless leg syndrome, RLS)

가

(Parkinson's disease), (myelopathies), (peripheral neuropathies) primary amyloidosis, (diabetes mellitus), (anemia), (uremia), (leukemia), (rheumatoid arthritis), (fibromyositis) (1).

본론

1. 하지불안증후군

, 1945 Ekbom

(2). 1961 Bornstein (1) (2) (3) (4) (5) (subclinical level). 6)

(3).

1

Department of Neurology, College of Medicine, Inha University, Incheon, Korea

Corresponding author: Il-Keun Lee, Department of Neurology, Inha University Hospital, Shinhung-Dong 3Ga 7-206, Incheon 400-103, Korea

Tel: 032) 890-3418, Fax: 032) 890-3864

E-mail: neurolee@inha.ac.kr

가

가

가 .

가 .

20 . (narcolepsy) (obstructive sleep apnea syndrome)

가

가 MAO 가

가 가

5~15% 11%, 30%

15~20%,

가 가 60

34% , 1~15%

. RLS Inter -

national Classification of Sleep Disorders(ICSD)

1

가 2 가

2. 주기성 하지운동장애 3, 4 가 . REM

nocturnal myoclonus, periodic movements . Tibialis anterior

in sleep(PMS), leg jerk periodic limb movement disorder가 가 0.5~5 (1.5~2.5

()

(PLM) (5). 가 (exten - 20~40 5~90

sion) (flexion) . Coleman

가

Table 1. ICSD (International Classification of Sleep Disorders) criteria of RLS(4)

- A. A complaint of an unpleasant sensation in the legs at night or difficulty in initiating sleep.
- B. Disagreeable sensations of "creeping" inside the calves often associated with general aches and pains in the legs.
- C. The discomfort is relieved by movement of the limbs.
- D. Polysomnographic monitoring demonstrates limb movements at sleep onset.
- E. No evidence of any medical or psychiatric disorders that account for the movements.
- F. Other sleep disorders may be present but do not account for the symptom.

Minimal Criteria : A + B + C

Table 2. ICSD (International Classification of Sleep Disorders) criteria of PLMD(4)

- A. A complaint of insomnia or excessive sleepiness. Occasionally the patient will be asymptomatic and the movements are noticed by an observer.
- B. Repetitive highly stereotyped limb muscle movements, which in the leg are characterized by extension of the big toe in combination with partial flexion of the ankle, knee, and sometimes hip.
- C. Polysomnographic monitoring demonstrates :
 1. Repetitive episodes of muscle contraction (0.5 - 5 seconds in duration) separated by an interval of typically 20 - 40 seconds ;
 2. Arousal or awakenings may be associated with the movements.
- D. No evidence of a medical or psychiatric disorder that can account for the primary complaint.
- E. Other sleep disorders may be present but do not account for the movements, e.g., obstructive sleep apnea syndrome.

Minimal Criteria : A plus B

4 scoring 5/hr index episodes

(6). Sleep starts가 PLM , sleep starts hypnic myoclonus (13) PLM primary amyloidosis, syringomyelia, syringobulbia 가

(7). PLMD ICSD 2 RLS, PLMD가 akathisia

3. 병태생리 (fMRI) akathisia 가 (8). L - dopa my - oclonus (red nucleus) (reticular formation) 가 (globus pallidus) 가

5. 치 료 가 RLS, PL - MD 가 가 (carbamazepine)(14) RLS 가 PLM 가 (clonidine)(15) adrenergic agonist RLS 가 (baclofen)(16) GABA agonist RLS, PLMD (nocturnal immobility), (tremor), (dyskinesia), PLM, RLS, myoclo - nus . PET PLM PD (11). PLM 가 (caudate nucleus) putamen 가 PLMD (myelopathy) (peripheral neuropathy) (12). schwannoma, L - dopa (intramedullary tumor) 가 가

가 rebound myoclonus가
agonist bromocriptine 가
가 dopamine

결 론

가

중심 단어 :

REFERENCES

1. Kryger MH, Roth T, Dement WC. Principles and Practice of Sleep Medicine, 2nd ed, Philadelphia, W.B. Saunders;1994. p.589-597
2. Ekblom KA. Restless legs. Acta Med Scand Suppl 1945;158:1-123
3. Bornstein B. Restless legs. Psychiatr Neurolo 1961;141:165-201
4. American Sleep Disorders Association. The International Classification of Sleep Disorders (Diagnostic and Coding Manual), Lawrence, Allen Press Inc;1990. p.65-71
5. Bixler EO, Kales A, Vela-Bueno A, Jacoby JA, Scarone S, Soldatos CR. Nocturnal myoclonus and nocturnal myoclonic activity in a normal population. Res Commun Chem Pathol Pharmacol 1982;36:129-140
6. Coleman RM. Periodic movements in sleep (nocturnal myoclonus) and restless legs syndrome. in Guilleminault C (ed). Sleeping and Waking Disorders: Indications and Techniques. Menlo Park, CA, Addison-Wesley;1982. p.265-295
7. Oswald I. Sudden bodily jerks on falling asleep. Brain 1959;82:92-103
8. Bucher SF, Seelos KC, Oertel WH, Reiser M, Trenkwalder C. Cerebral generators involved in the pathogenesis of the restless legs syndrome. Ann Neurol 1997;41 (5) :639-645
9. Wetter TC, Collado-Seidel V, Pollmacher T, Yassouridis A, Trenkwalder C. Sleep and periodic leg movement patterns in drug-free patients with Parkinson's disease and multiple system atrophy. Sleep 2000;23 (3) :361-367
10. Trenkwalder C. Sleep dysfunction in Parkinson's disease. Clinical Neuroscience 1998;5 (2) :107-114
11. Ruottinen HM, Partinen M, Hublin C, Bergman J, Haaparanta M, Solin O, Rinne JO. An FDOPA PET study in patients with periodic limb movement disorder and restless legs syndrome. Neurology 2000; 54 (2) :502-504
12. Lee MS, Choi YC, Lee SH, Lee SB. Sleep-related periodic leg movements associated with spinal cord lesions. Mov Disord 1996;11 (6) : 719-722
13. Nogue M, Cammarota A, Leiguada R, Rivero A, Pardal A, Encabo H. Periodic limb movements in syringomyelia and syringobulbia. Mov Disord 2000;15 (1) :113-119
14. Telstad W, Sorensen O, Larsen S, Lillevold PE, Stensrud P, Nyberg-Hansen R. Treatment of the restless legs syndrome with carbamazepine: A double blind study. Br Med J 1984;89:1-7
15. Handwerker JV, Palmer RF. Clonidine in the treatment of restless leg syndrome. N Engl J Med 1985;313:1228-1229
16. Guilleminault C, Flagg W. Effect of baclofen on sleep related periodic leg movements. Ann Neurol 1984;15:234-239