Restless Legs Syndrome: Diagnosis and Treatment

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Abstract

Aim: To describe clinical, biochemical and electrophysiological profile in Indian patients with Restless Legs Syndrome.

Material and Methods: A total of 84 patients with sleep disorders were evaluated. Eight patients were diagnosed to have RLS. All underwent series of hematological, biochemical investigations and electrophysiological studies. Severity was assessed before and after specific treatment.

Results: Eight patients presenting with clinical features of RLS formed the study group. The mean age was 51.6 ± 13.8 years. The male:female ratio was 7:1. Six cases were primary and two were of secondary type of RLS. Seven patients reported significant improvement in symptoms after treatment. Conclusion: RLS can be diagnosed purely on clinical criteria; and appropriate treatment results in significant relief. Thus, the recognition of this entity is essential.

INTRODUCTION

Restless legs syndrome (RLS), is an intrinsic sleep disorder with a circadian pattern that affects onset and continuity of sleep. This is characterised by unpleasant sensations in legs at rest which increase in the evening, and are relieved by motor activities.1 The prevalence of RLS is 2-15% in the general population.1 RLS may be primary (idiopathic) or secondary occurring in various diseases such as peripheral neuropathies, iron deficiency, Parkinson’s disease, diabetes mellitus, rheumatoid arthritis and in pregnancy.2 The differential diagnosis of RLS include panic attacks, akathisia, painful leg syndrome, these however have an inconsistent association with rest or sleep, and the diagnostic criteria by International RLS Study Group have clarified this issue.3 There is no report of this entity from India. The aim of the present study was to identify patients with RLS presenting to the sleep disorder clinic, Department of Neurology, All India Institute of Medical Sciences, New Delhi.

METHODS

Eighty four patients were seen at the sleep disorder (SD) clinic at All India Institute of Medical Sciences from January 2000 to September 2001. A predesigned proforma with symptom-specific questionnaire regarding various sleep disorders was administered to all. It consisted of four specific questions for the clinical diagnosis of RLS as recommended by the International RLS Study Group (1995).3

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Eight patients who fulfilled the criteria for the diagnosis of RLS formed the study group. Family history was obtained by charting family pedigree up to third generation. The Epworth Sleepiness Scale (ESS) questionnaire was administered in these patients to detect complaints of excessive daytime sleepiness.4 The severity of RLS was assessed using Johns Hopkins RLS severity scale.5 All the patients were subjected to complete physical examination and a detailed nervous system examination. Routine investigations such as complete haemograms, serum biochemistry, and thyroid function tests, ECG were done in all the patients. Serum ferritin and total iron binding capacity (TIBC) were done in five patients.

Nerve conduction studies of median, ulnar, common peroneal, posterior tibial and sural nerves were performed in all the patients. Those with abnormalities of any laboratory parameters were said to have secondary RLS and others as primary RLS.

RESULTS

The mean age of the study group was 50.8 ± 14.8 years and the male:female ratio 7:1. Six patients had primary RLS and two had secondary type (Table 1). The duration of symptoms varied from two months to thirty years. Family history was negative in all the patients. All the patients had symptoms confined to the legs, none had arm restlessness.

Complete haemogram, urine examination, serum electrolytes (K+, Na+, Ca++, PO4 3-), liver function tests (LFT), renal function tests (RFT), thyroid function tests (TFT) and peripheral smear examination were normal in all the patients. Blood sugar value was high in two patients who were on treatment for diabetes mellitus.
In the present study the mean sleep onset time was delayed by 3.13 ± 0.52 hours. The ESS score which is a measure of EDS in patients with RLS was 6 ± 14. All the patients of this study group were started on Levodopa/Carbidopa (100/25 mg) combination seven patients had significant relief however one patient had worsening of symptoms with increase and shifting of symptoms to daytime, thus carbamazepine was added.

**DISCUSSION**

Restless leg syndrome is purely a clinical diagnosis based on the diagnostic criteria of International RLS Study Group (1995). There is no available data on this entity from the Indian population. In our sample group there is a clear male predominance unlike the western studies, probably because of under-reporting to the hospitals by the symptomatic females. Only two patients had secondary RLS (diabetes mellitus) and in rest of the patients no association could be found. The family history taken from the patients was negative for RLS in all our patients whereas in Western studies positive family history has been reported in about 63% patients. The small sample size and the fact that the relatives of these patients were not interviewed directly may be the responsible factors for not finding a positive family history.

Iron deficiency, with or without anemias, is a very important provocative factor for RLS. It has been found that levels less than 50 nmol/ml have been associated with restless legs syndrome, even in the absence of decreased haemoglobin or serum iron levels. In our series there was no evidence of anaemia and the serum ferritin, total iron binding capacity (TIBC) in the patients tested were in the normal range.

Management of RLS includes its diagnosis, identification and treatment of secondary causes such as hypothyroidism, iron deficiency and diabetes mellitus along with avoidance of drugs precipitating RLS in addition to good sleep hygiene. Specific treatment modalities include dopaminergic agents, benzodiazepines, and anticonvulsants.

**CONCLUSION**

Restless legs syndrome, an intrinsic sleep disorder, is a common clinical entity and the diagnosis is exclusively clinical. It is important to recognize this syndrome as effective management can cause considerable relief of symptom and improve the quality of life.

**REFERENCES**