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Original article

RLS-like symptoms: Differential diagnosis by history and clinical assessment

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Abstract

Restless legs syndrome (RLS) is a distressing condition with an impact on various aspects of an individual's life. However, the condition is underrecognized due to a lack of awareness and the fact that the patient does not describe symptoms easily associated with RLS. In clinical practice, the main misdiagnoses are the following: circulation problems, venous diseases, arthritis, back or spinal injury.

It is possible to make a diagnosis of RLS based on the patient's medical history and physical examination, in conjunction with the essential criteria of International RLS Study Group (IRLSSG). If the patient fulfils each of the four criteria, a diagnosis of RLS is likely. Supportive features (including response to a dopaminergic agent, and positive family history for RLS) as well as associated features (natural clinical course, sleep disturbance, normal findings on physical examination) are not necessary for a diagnosis to be made but may support the diagnosis in ambiguous cases. In most conditions that may be confused with RLS (sleep starts, nocturnal leg cramps, neuroleptic-induced akathisia, painful leg and moving toe syndrome), RLS can be excluded for the lack of response to the dopaminergic treatment, as well as for the lack of the typical circadian profile.

Keywords: Restless legs syndrome (RLS); Clinical assessment; Differential diagnosis

Restless legs syndrome (RLS) is a common sensorimotor disorder characterized by uncomfortable and unpleasant sensations in the legs that are relieved by movement [1]. According to the recently revised diagnostic criteria, RLS is a clinical diagnosis and the four minimal criteria for the diagnosis of RLS are shown in Table 1 [1–3]. Patients may feel forced to get out of bed several times during the night to walk or engage in other physical activities in order to relieve discomfort or pain.

RLS occurs in 3–10% of the general population, with an increasing prevalence with age and often a female preponderance [1,2,4,5]. Although the syndrome was probably first described in the 17th century and initially described clinically in 1945, the majority of affected individuals remain undiagnosed and untreated today. Mild RLS may have a variable natural course with long periods of remission or manifestation of symptoms for only a limited time. In a recent epidemiological study conducted in the United States and five European countries [6], RLS symptoms of any frequency were reported by 7.2% of the general population: symptoms occurred at least twice a week and were reported as moderately or severely distressing by 2.7%; these subjects were defined as RLS sufferers. Of these RLS sufferers, 81% reported discussing their symptoms with a primary care physician, but only 6.2% were given a diagnosis of RLS. These data confirm the results of a survey in an international primary care population [7]: in this survey 64.8% of the RLS sufferers (by using the previously reported criteria) consulted a physician about their RLS symptoms, but only 12.9% reported having been given a diagnosis. Why was the diagnosis of RLS not made? There

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Table 1
Essential criteria for the diagnosis of RLS

1. A need to move the legs, usually accompanied or caused by uncomfortable, unpleasant sensations in the legs
2. The need to move and unpleasant sensations are exclusively present or worsen during periods of rest or inactivity such as lying or sitting
3. The need to move and unpleasant sensations are partially or totally relieved by movement such as walking or stretching at least as long as the activity continues
4. The need to move and unpleasant sensations are generally worse or exclusively occur in the evening or night

are some answers to this question. Patients may lack the vocabulary to describe their symptoms, and there has been little medical attention to or awareness of RLS. Furthermore, RLS is often commonly misdiagnosed as back pain, depression and anxiety [7].

In addition to the four essential criteria for an RLS diagnosis, there are supportive clinical features that can help resolve diagnostic uncertainty and avoid misdiagnosis [2]. These include a positive family history of RLS and a positive therapeutic response to dopaminergic compounds (Table 2). Both of these features may strongly help in the differential diagnosis. More than 50% of patients with primary RLS report familial pattern, and early onset of RLS symptoms (before the age of 45 years) indicates an increased risk of RLS occurrence in the family. Although the pathophysiology of RLS is still not completely understood, recent studies all point to the involvement of the dopaminergic system in RLS [1], and dopaminergic medications have the greatest efficacy in RLS and are considered the first-line treatment (Table 3) [8]. The conditions to be considered in a differential diagnosis for RLS are listed in Table 4.

Positional discomfort may occur from pressure that compresses nerves, limits blood flow, or stretches body tissue. The symptomatology is resolved by changing body position without requiring any repetitive movement. Unlike RLS, the discomfort does not include an urge to move the legs. Sleep starts (or hypnic jerks) are short, massive body movements during the sleep/wake transition; the movements may involve the extremities of both sides synchronously but without periodicity. Like RLS, sleep-related leg cramps are worse at night and are relieved by movement. However, leg cramps always involve a specific muscle and usually require stretching of the muscle more than moving of the leg to relieve symptoms. Moreover, residual pain or sensitivity after the event helps to differentiate leg cramps from RLS.

Pain involving the legs may occur with several conditions, including neuropathy, arthritis, vascular problems, sports trauma. In these conditions, pain may be worse at rest, but improvement with movement usually entails more exercise than simple movement of the leg. However, the presence of pain does not exclude a diagnosis of RLS, since a considerable proportion of patients with RLS report their RLS symptoms as pain [7]. Furthermore, RLS has been found in 31% of 135 consecutive patients with fibromyalgia [9] and in 30% of 70 patients with rheumatoid arthritis [10]. A close connection between "growing pains" and RLS has also been reported [1]. Adults with RLS-like symptoms are much more likely to have experienced growing pains as children than adults without RLS-like symptoms. In the parents of children with growing pains, RLS-like features in adulthood occur more frequently than in control parents [11]. Interestingly, antidepressant drugs (including tricyclics) may be administered to improve pain, but it has been reported that these compounds may induce or worsen RLS [1]. A recent review article on this topic showed that there are conflicting results regarding the effect of antidepressants on the sensory symptoms of RLS [12]. In contrast, several studies have found that selective serotonin reuptake inhibitor (SSRI) use is associated with increased periodic limb movements in sleep (PLMS) [12].

Painful legs and moving toes syndrome is characterized by severe pain in one or both feet, often with a sensation of burning and associated with frequent, repetitive movements of the toes. Unlike RLS, pain is not necessarily increased at night or relieved by movement.

Neuroleptic-induced akathisia is motor restlessness, induced by dopamine receptor antipsychotic compounds, that differs from RLS in the generalized nature of the need to move the body and in the lack of the specific circadian pattern. Iatrogenic akathisia is not associated with prominent paresthesia and, interestingly, levodopa does not suppress the disturbance as it does RLS symptoms [1]. Vascular intermittent claudication is a frequent cause of leg pain or discomfort, but, unlike RLS, it is relieved by rest and worsens during a prolonged upright position or walking. Again, in the

Table 2
Nonessential, but supportive features of RLS diagnosis

1. Positive response to dopaminergic therapy
2. Periodic limb movements during sleep (PLMS) (in individuals under 50 years of age)
3. Individuals of any age may experience periodic limb movements during wakefulness (PLMW)
4. Family history: the prevalence of RLS among first-degree relatives of people with RLS is 3–5 times greater than in people without RLS