Preface

Restless Legs Syndrome and Sleep Related Movement Disorders

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Editor

This issue of *Sleep Medicine Clinics* highlights the current understanding of Restless Legs Syndrome/Willis-Ekbom Disease (RLS/WED), sleep bruxism, leg cramps, and hypnic jerks—all part of sleep-related movement disorders. These pathologic entities are characterized by simple, usually stereotyped movements that interfere with the ability to achieve or maintain sleep. As such, their diagnosis and management may fall between the cracks of specialized medicine. Frequently, patients transition between primary care, neurology or movement specialists, and sleep medicine and pain specialists. These transitions prolong the time elapsed between the initial symptoms and the diagnosis, sometimes up to 12 years, as mentioned in the article by Simakajornboon, Dye, and Walters on RLS/WED and growing pains in children and adolescents.

RLS is included with sleep-related movement disorders but might be also considered as an exception to this category. RLS is not diagnosed during sleep, but it can affect sleep. The patient typically engages in walking or nonstereotyped movements to ease the urge to move the legs, arms, or other body parts. The name itself has been an issue of debate lately.

Karl-Axel Ekbom coined the expression of restless legs in his doctoral thesis in 1945 when he described the movement disorder as we know it today. However, arms or other body parts may present with similar symptoms. Therefore, even though the symptoms typically start in the legs, it is not all

about the legs. There was also a sense among RLS patients that their symptoms are trivialized because legs are supposed to move anyway. In addition, this disorder became a subject of jokes, questioning its medical validity and setting it as an example of disease mongering and revenue source for the pharmaceutical companies. Since RLS is a common condition in the United States and other western countries as reported by Koo in his assessment of RLS epidemiology around the globe, many patients felt degraded and uncomfortable when attempting to describe their symptoms. Some continued to suffer in silence, often to the point of being unable to work or fulfill their social obligations. The proposed name change to Willis-Ekbom disease (WED) was meant to honor Sir Thomas Willis, who provided the first medical description of RLS in the seventeenth century, and Karl-Axel Ekbom, for his work in the last century.

The transition from syndrome to disease was prompted by recent, important pathophysiologic and genetic findings. Richard Allen presents a primer to the pathophysiology of RLS/WED. Provini and Chiaro discuss the role of neuroimaging in understanding RLS/WED, and Rye discusses the common genetic variants affecting RLS/WED expressivity. A disease is characterized by a set of distinguishing signs and symptoms that impair normal functioning, as shown by Becker in an article on the diagnosis and assessment of RLS/WED. Periodic limb movements (PLMs) are frequently part of the RLS/WED phenotype, and

Fulda explores the relationship between RLS and PLMs. Currently, there are no specific diagnostic tests in use to properly diagnose RLS/WED in clinical practice. Chokroverty underlines the importance of considering the differential diagnoses, the mimics, and the comorbidities when assessing an RLS/WED patient.

Several articles in this issue are devoted to the management and treatment of RLS/WED. The limited research available on nonpharmacologic options is detailed in my review on the topic. Manvir Bhatia presents an interesting insight into the world of yoga. The dopaminergic options are summarized in Zak's review, while Garcia-Borreguero presents the problematics associated with dopaminergic treatment. Finally, Trotti reviews the quality measures for the diagnosis and management of the RLS/WED patient.

Living with RLS/WED poses a number of challenges that affect patients in specific conditions, including hospitalizations and perioperative situations. Goldstein discusses how these conditions can trigger or worsen RLS/WED and provides suggestions for managing these situations. Children and adolescents often get undiagnosed, misdiagnosed, and mislabeled, potentially affecting their well-being and development. In addition, as Simakajornboon, Dye, and Walters point out, better differentiation is needed between entities such as RLS, periodic limb movement disorder, and growing pains in this population. Another segment population that can have significant difficulty living with RLS/WED are pregnant women. As Prosperetti and Manconi point out in their article, RLS/WED frequently occurs in this population, and the pharmacologic options are very limited. RLS/WED tends to worsen with age and often manifests in the second half of life, posing significant difficulties in the diagnosis and management due to the potential frailty and cognitive impairment of the patient, as reported by Figorilli, Puligheddu, and Ferri.

As a chronic disease, RLS/WED has been associated with many other disorders that can exacerbate the symptoms. Conversely, the treatment of these disorders can trigger or worsen RLS/WED symptoms. In this issue, we chose to concentrate on three groups of co-morbidities. Askenasy and Askenasy review the neurologic and medical

comorbidities. Winkelman and Mackie review the psychiatric disorders and their specific association with RLS/WED. Tachibana focuses on the common association of RLS/WED and end-stage renal disease, as this comorbidity can further worsen the quality of life of these patients. RLS/WED significantly impacts patients and their lives. However, as Stevens points out in her assessment of RLS/WED morbidity and burden, it can impact work productivity and affect society as a whole.

Even though some of the sleep-related movement disorders are common, their representation in evidence-based studies is scarce. Among these are sleep bruxism, leg cramps, and hypnic jerks. Carra, Huynh, Fleury, and Lavigne review sleep bruxism, and its recently published definition and grading criteria are presented.

Finally, leg cramps and hypnic jerks are very common occurrences, although less common as a sleep disorder. In his review of leg cramps, Brown makes a strong case for further research to better understand the nature of this disorder. Cuellar presents an extensive literature review on hypnic jerks and points to existing gaps in our understanding of this condition.

This issue of *Sleep Medicine Clinics* provides us with an opportunity to present a series of articles by an international group of well-published scientists and clinicians on RLS/WED and sleep-related movement disorders. This issue is too narrow in scope to cover all aspects, some of which are still poorly understood. Its purpose is to increase awareness of this field and to engage the reader to seek further information and a better understanding regarding sleep-related movement disorders, all in an attempt to bridge the gaps in our knowledge and comprehension.

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