

Restless legs syndrome and iron deficiency in adults with attention-deficit/hyperactivity disorder

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Abstract

Study Objective

The association between restless legs syndrome (RLS), periodic leg movements during sleep (PLMS) and iron deficiency has been reported in children with attention-deficit/hyperactivity disorder (ADHD); however little is known in adults. The aim of this study was to assess frequencies of RLS, PLMS and other leg movements (LM) and iron deficiency and their relationships with ADHD phenotype in adults with ADHD.

Methods

Two hundred adults with ADHD (112 males, median age 31 years) were evaluated on lifetime ADHD symptoms and sleep characteristics. RLS was diagnosed according to standard criteria. Serum ferritin levels were measured, with iron deficiency defined as <50 ng/mL. A subgroup of 48 ADHD patients with RLS, 48 ADHD without RLS and 48 controls underwent a polysomnography to record sleep, LM, and PLMS.

Results

RLS was diagnosed in 33.0%, associated with earlier onset of ADHD, hyperactive presentation and more severe lifetime ADHD symptoms. Iron deficiency was found in 35.5% with higher frequency in patients with RLS. LM were more frequent in ADHD patients, with higher LM periodicity levels in those with comorbid RLS in comparison to controls. However, PLMS index did not differ between groups. Patients with ADHD and RLS had higher frequency of iron deficiency than other groups.

Conclusions

In a large sample of adults with ADHD, we individualized a subgroup characterized by earlier and severe ADHD symptoms, RLS, higher LM during sleep and iron deficiency. This endophenotype may reflect a different neurobiological mechanism that remains to be further studied.

ADHD, adults, restless leg syndrome, leg movements, iron deficiency, ferritin

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