Epidemiological aspects of restless legs syndrome in Finland

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Background

We know from previous studies that in Western populations the prevalence of restless legs syndrome (RLS) symptoms varies between 2.5-15%. In a study from Scandinavia the prevalence has also been studied among younger age groups. The prevalence of RLS symptoms occurring at least once during the past 4 weeks was 6.3% among 18-29 olds. We have studied the occurrence of RLS in two populations: a) a cohort of 23-year old twins (N=885), and b) subjects with adult attention deficit and hyperactivity disorder (ADHD) (N=100).

Twin study

Our study was a part of a larger Finnish twin study called FinnTwin16, which consists of five consecutive birth cohorts of Finnish twins born between 1975-1979. This survey was conducted by sending a postal questionnaire to a cohort of twins who were born in 1979, so they were 23 years old at the time of the survey. The survey consisted of a total of 95 questions including sociodemographic data, health, environment, behavior and six RLS-related questions. Altogether 379 men and 506 women aged 23 years, responded.

Results

Using the IRLSSG criteria the prevalence of RLS was 7.6% (5.6% in men and 9.1% in women; p=0.056). The prevalence of RLS with disabling symptoms at least once a week was 2.3% and the prevalence of RLS with symptoms on at least 3 days per week was 1.1% (0.5% in men and 1.6% in women). 50% of the subjects with RLS and 23.7% of the others suffered from anxiety (p<0.001). Headache occurring at least weekly was significantly more common in RLS (42.3%) than among others (18.5%; p<0.001). Life dissatisfaction was slightly higher in RLS (LS-score 9.13) than in controls (8.48) as was smoking (36.4% of RLS subjects and 27% of the others smoked daily), but these differences were not statistically significant. Difficulties falling asleep or disturbed sleep occurring at least once a week were more common (p=0.001) among subjects with RLS (45.5%) than among the others (26.2%). In the heritability analyses environmental factors explained an important part of the variation. More detailed results will be given at the meeting.

ADHD and RLS

Altogether 104 subjects (45 women and 59 men) with ADHD participated in this study. The mean age was 34 years (SD 10.9; range 18-69 y). The prevalence of RLS (IRLSSG criteria) was 59.8% (68.3% in women and 53.6% in men; P=0.144). Serum ferritin levels did not differ between subjects with RLS (median ferritin level 90 µg/L; range 5-460 µg/L) and those without RLS (median ferritin level 77.5 µg/l; range 17-320 µg/L). The serum ferritin values were significantly lower among women (median 38, mean 61.0, SD 72.5) than men (median 123, mean 142.3, SD 90.0; p<0.0001 Median test). In multivariate models, the ferritin levels were also explained by gender, but not by age, or presence of RLS.

Altogether, 68.7% had difficulties falling asleep at least once a week and 18.75% daily difficulties. Difficulties falling asleep were more common among those with RLS (22.4% daily) than among others (13.1% daily; p=0.02). 15.2% had bruxism almost every night. It was more common in RLS subjects than among others (21.8% vs 5.4%; p<0.05). Morning tiredness and non-refreshing sleep were very common (86.5% at least for one month). Subjects with RLS complained more (94.8%) about morning tiredness and non-refreshing sleep than subjects without RLS (71%; p=0.004). The Epworth Sleepiness Score (ESS) score was > 10 in 28.1% (34.5% in RLS and 18.4 in others; p=0.07). Altogether, 64.6% were evening types and 14.6% were morning types. Subjects with RLS were more often morning types (16.1 vs. 12.8%) and less often evening types (60.7% vs. 69.2%) compared to others, but the difference is not statistically significant.

Conclusion

RLS is common in 23 year-old Finnish subjects, and environmental factors seem to be important factor at this age. At this, RLS seems to be associated with anxiety, headache and different psychosomatic complaints. RLS is very common in subjects with ADHD. Among subjects with ADHD, differences in serum ferritin levels were explained almost only by gender differences. On the other hand ADHD subjects with concomitant RLS had more problems with falling asleep and also with morning tiredness than ADHD subjects without RLS. The possibility of ADHD must be taken into account in young adults with anxiety, psychosomatics symptoms or bruxism as well as in all subjects who complain of marked morning tiredness.