Restless legs syndrome in Czech pregnant women: an epidemiological and genetic study

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Objective: Idiopathic restless legs syndrome (RLS) is associated with common genetic variants in five chromosomal regions. The aim of our study was to evaluate the prevalence of RLS among Czech pregnant women and to further analyze the impact of known genetic determinants for RLS in this population.

Methods: We surveyed 776 pregnant women (18-49 years old) in the 36th-38th week of pregnancy. We used the 3 minimal set epidemiological questions to assign RLS status, disease course and frequency of symptoms. Furthermore, we asked for previous pregnancies and comorbidities. A total of 752 pregnant women were genotyped using 12 single nucleotide polymorphisms within the five genomic regions.

Results: The prevalence of RLS during pregnancy was 28% (95% confidence interval 24.9% to 31.2%) in our sample. Of these, 71% women presented symptoms more than once per week and 49.3% reported symptoms in the third trimester. We observed only leg cramps to be marginally more frequent in the RLS group (23% vs. 16%, p=0.022) and also hypothyreosis (13% vs. 8%, p=0.033). We have found only nominally significant one-sided association for SNP rs6710341 in *MEIS1* gene, (P= 0.018), rs3923809 in *BTBD9* gene (P = 0.029) and also rs6747972 in the region of 2p14 (P= 0.049).

Conclusions: We concluded that RLS is significantly associated with pregnancy in Czech women. The genetic part of the study shows suggestive association with *MEIS1* and *BTBD9*, the major risk factors also for idiopathic RLS and secondary RLS in pregnancy.

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