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Circadian rhythm genes polymorphism associated with sleep disorders: epidemiological based study

Purpose:

To study the effect of circadian rhythm genes polymorphism on sleep disorders in male population of 25-64 year.

Methods:

Based on consequences screening II was conducted in 1988—1989 (n= 725, mean age 43.4±0.4y), in 1994—1995 (n=647, aged 44.3±0.4y), 2003—2005 (n=576, aged 54.23±0.2y) 2013—2016 (n=427, aged 34±0.4y), in 2016—2018 (n=275 men, aged 49±0.4y). The Jenkins questionnaire was used to assess sleep disorders. Genotyping of the studied polymorphisms of CLOCK, ARNTL, PER2, NPAS2, DRD4, DAT, genes was performed.

Results:

Carriers of the C/T genotype of the CLOCK gene rs2412646 more often than others reported having "satisfactory" or "poor" sleep. Carriers of the C/T genotype of the ARNTL rs2278749 gene were more likely to experience anxiety dreams, they woke up exhausted. Carriers of the A/A genotype of the PER2 rs934945 gene were more likely (25%) to wake up two or more times per night, a total of 4 to 7 times per week. In the population, C/T and T/T genotypes of the NPAS2 rs4851377 gene were significantly more common in individuals with 7-hour sleep (50% and 53.3%, respectively). Genotype 4/6 of the DRD4 gene and genotype 9/9 of the DAT gene were significantly associated with sleep disturbances.

Conclusion:

Association of certain polymorphisms of CLOCK, ARNTL, PER2, NPAS2, DRD4, DAT, genes with sleep disorders was found.

Biography

Professor Valery Gafarov, in 1974 - MD (Novosibirsk medical university). 1980 - Phd, theme "Epidemiological studying Acute Myocardial Infarction in conditions of large industrial centre of Western Siberia". 1991 - MPH; 2003 - professor on a specialty "cardiology"; 2003 - present time – head of collaborative laboratory of epidemiology cardiovascular diseases and Laboratory of psychological, sociological aspects of therapeutic diseases of Research Institute of Internal and Preventive Medicine. The author of 758 scientific publications (articles and abstracts), from them 6 monographs

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