

Maturation of integrative sleep apparatus in children in normal and pathological condition

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Abstract

AIM:

To study and compare clinical characteristics of sleep macrostructure and sleep cycle organization during the night polysomnographic study in children with attention deficit hyperactivity disorder (ADHD) and obstructive sleep apnea syndrome (OSAS) aged from 6 to 9 years.

MATERIAL AND METHODS:

Polysomnography was performed in 40 children with ADHD and 20 children with OSAS. The control group included 20 healthy children.

RESULTS AND CONCLUSION:

The changes in sleep architectonics were unidirectional. Typical for the two groups of children was an increase in the latency of REM sleep and a reduction of its duration in total time of sleep. In children with ADHD, there was a significant decrease in the total number of sleep cycles, with a significant increase in the duration of the first sleep cycle. For an objective assessment of the rhythmic organization of ultradian rhythms, the authors propose a formula to calculate the maturity index of sleep in children older than 6 years. From the standpoint of evolutionary neuroscience, results should be considered as manifestations of dysontogenesis.