

Sympathetic Nervous Activity during Sleep

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Sleep accounts for approximately one-third of our lives and is accompanied by significant changes in autonomic and circulatory regulation. It is closely related to the maintenance of homeostasis by adjusting the various organs while taking the balance between sympathetic nervous system and parasympathetic nervous system. The role of the rest will vary in depth of sleep. I.e. the brain will take a rest during non-rapid eye movement (NREM) sleep and the body will take a rest during rapid eye movement (REM) sleep. On the other hand, parasympathetic nervous activity is dominant during NREM sleep, and sympathetic nervous activity is dominant during REM sleep. The imbalance of the autonomic nervous activity induce various illness, and also variety of diseases may occur the imbalance of the autonomic nervous activity.

Evaluation methods of the autonomic nervous activity are the urine/blood catecholamine measurement, ¹³¹I/¹²³I-Metaiodobenzylguanidine (MIBG) Scintigraphy, muscle sympathetic nerve activity (MSNA), heart rate variability (HRV) and so on. Each methods has its merits and demerits.

We will explain the autonomic nervous activity during sleep, including our cases.