

Heart rate variability and neurovascular compression in essential hypertension.

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Heart rate variability and neurovascular compression in essential hypertension.

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Kanazawa University

Principal Investigator

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Research Abstract

There are physiological and anatomical reasons to suspect that neurovascular compression of the rostral ventrolateral medulla (RVLM) may cause essential hypertension. Clinical studies using magnetic resonance tomography (MRT) have found that neurovascular compression of the RVLM is related to essential hypertension. However, the mechanism of a neurovascular compression-induced increase in blood pressure has not been

investigated in a clinical study.

Methods We investigated the neurovascular compression-induced increase in 23 patients with essential hypertension (EHT), 13 patients with secondary hypertension (SHT), and 46 normotensive subjects (NT). Neurovascular compression was evaluated by MRT. We determined the power spectral components of heart rate variability as indices of autonomic nerve tone to investigate the possibility that sympathetic tone mediates the neurovascular compression-induced increase in blood pressure. The power spectral density was calculated by fast Fourier transf ...▼ More

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