

DOI: 10.5281/zenodo.3685646
UDC: 612.172.2:616.89-008



Heart rate variability in people with borderline type personality

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Manuscript received January 19, 2020; revised manuscript February 27, 2020; published online March 10, 2020

Abstract

Background: Reduced HRV is associated with a variety of conditions such as diabetic neuropathy, sepsis, myocardial infarction, but lately it has gained increased interest in psychiatry due to the connection between autonomic dysfunction and psychiatric pathologies. Borderline personality disorder (BPD) with an increased rate of cardiovascular mortality, and characterized by emotional instability, is ideal for studying heart rate variability.

Material and methods: 203 subjects were initially evaluated with Personality Inventory for DSM-5, PID-5, (DSM-5 – Diagnostic and Statistical Manual of Mental Disorders, 5th edition), and 2 groups have been selected: control group that included 69 subjects and borderline personality disorder (BPD) group that included 34 subjects. Heart rate variability (HRV) was analyzed from an electrocardiography signal, recorded in 3 conditions: resting, pain stimulation, period following the pain stimulation.

Results: In post-pain period, in subjects with BPD, the HRV parameters indicate an increase of sympathetic influences on heart rate and a reduction of vagal modulatory effects. The values in these subjects did not return to the initial values in the post-pain period as they did in the control group, but, on the contrary, the accentuation in the dynamics of the sympathetic influence was registered, even compared to the pain period.

Conclusions: Subjects with BPD presented an increased vagal modulation at rest, which was reduced during pain stimulation and did not return rapidly to the initial value after removing the painful stimulus, which can be proof of the inertia of autonomic influences in these subjects.

Key words: borderline personality disorder, heart rate variability.

Cite this article

Lozovanu S, Moldovanu I, Vovc V, Besleaga T, Ganenco A. Heart rate variability in people with borderline type personality. *Mold Med J.* 2020;63(1):33-38. doi10.5281/zenodo.3685646.