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Hands-on autonomic function test and its interpretation

Autonomic nervous system has very important role in the regulation of the overall homeostatic mechanism of our body. It could be tested in a non-invasive way with good reproducibility and accuracy. It is a promising tool of investigation for many sub clinical conditions and prognostication of many chronic disorders too. The tests are mainly based upon the heart rate and blood pressure recordings and the effect of sympathovagal influence upon its regulation. The test is done following certain pre-requisites to avoid any interference with the result due to any external reason. To start with, Heart Rate Variability (HRV) is tested using sophisticated computer based system followed by Deep Breathing Test (DBT), Valsalva Manoeuvre (VR), Isometric Hand grip Test (IHT) and Orthostatic Test (OT) in the same sequence. The DBT and VR is mainly a pulse rate based test and it usually quantifies the parasympathetic function whereas OT and IHT is mainly blood pressure based test and used for quantifying sympathetic function. HRV is very specific test of ANS utilized for the assessment of cardio vagal function in objective manner. The principle components of HRV includes Standard Deviations of RR intervals (SDNN), Root Mean Square Deviations of RR intervals (RMSSD), total power, Low Frequency variations (LF), Very Low Frequency Variations (VLF) and High Frequency variations (HF) in the heart rate besides other parameters. HF represents mainly Parasympathetic functions whereas LF and VLF mainly represents sympathovagal balance and sympathetic functions respectively.

Biography

Kamlesh Jha is an Associate Professor of Physiology at All India Institute of Medical Sciences, Patna, India. He has more than 10 years of teaching experience in the field of Physiology. His interest of field is Neurophysiology especially Autonomic Physiology and Electro-diagnostics. Till date, he has published more than 10 research articles in national and international journals, published three book chapters and presented his works in many national/international conferences. At Present, he is working upon the EEG signal processing in cognitive physiology.

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