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主題：

Clinical application of non-linear HRV analysis on cardiovascular disease

摘要：

Heart rate variability (HRV) is a non-invasive tool for cardiac autonomic evaluation. In addition to traditional linear HRV parameters, new methods using non-linear HRV analysis which focused on measurement of complexity instead of variability beneath the heart rate dynamics in recent years. Two of the most frequently using methods are multiscale entropy (MSE) and detrended fluctuation analysis (DFA). Both methods are based on fractal and chaos theories, respectively, was focused on measurement the complexity beneath the seeming stationary biological signals. In previous studies, both DFA and MSE showed better predictive powers of clinical outcomes in many diseases compared with traditional HRV analysis. In our recent studies, we found the clinical implications in patients with heart failure, stroke, end-stage renal disease, and pulmonary hypertension.

The speech will cover the rationale, the clinical studies, and the possible clinical applications of non-linear HRV analysis on cardiovascular diseases.

(Declaration: Some sentences of this abstract are from our previous paper. Heart Rhythm Complexity Impairment in Patients with Pulmonary Hypertension. Sci Rep. 2019 Jul 24;9(1):10710)