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Altered Heart Rate Turbulence and Variability Parameters Predict 1-Year Mortality in Heart Failure with Preserved Ejection Fraction

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Altered Heart Rate Turbulence and Variability Parameters Predict 1-Year Mortality in Heart Failure with Preserved Ejection: Background: Heart failure with preserved ejection fraction (HFpEF) is a complex and heterogeneous clinical syndrome. In the absence of effective and potent treatment strategies, the main challenge in HFpEF management remains the availability of strong predictors of unfavourable outcomes. In our study, we sought to evaluate the potential prognostic value of heart rate turbulence (HRT) and variability (HRV) parameters on mortality in ambulatory HFpEF patients. Methods: This was a case–control study comparing HRT and HRV parameters in HFpEF survivors vs. no survivors. Patients from the RESPOND Heart Failure Registry with HFpEF who underwent 24 h ECG monitoring (Holter) were included; HRT parameters (i.e., turbulence onset (TO) and turbulence slope (TS)) and HRV parameters (i.e., standard deviation of NN intervals (SDNN)) derived from 24 h Holter ECGs were calculated in patients who died within 12 months, and compared to their age-, gender-, LVEF-, ECHO-, aetiology-, and therapy-matched alive controls. Results: A total of 22 patients (mean age 80 ± 7 years, 18% female, mean LVEF 57 ± 9%) were included in the final analysis. In deceased patients, values of TO were significantly higher, and values of TS and SDNN were significantly lower as compared to survivors. Conclusions: HRT and HRV parameters have the ability to differentiate individuals with HFpEF who are at the greatest risk of unfavourable outcomes. The extent of autonomic misbalance as determined by HRT and HRV could potentially assist in the prognostic assessment and risk stratification of HFpEF patients.

Biography

Lea Rupert has completed her medical studies at the age of 25 at the Medical Faculty in Ljubljana. She is currently specializing in Anaesthesiology and perioperative medicine at the University Medical Centre Ljubljana.