

中文題目：以心律變異分析預測星座與心血管疾病罹病風險

英文題目：Zodiac Signs and Heart Rate Variability in Healthy Individuals

作者：傅苡倉¹，宋思賢^{1,2}

服務單位：¹ 台北榮民總醫院 內科醫學部，² 台北榮民總醫院 心臟內科

Background: People born in Leo has been related to a higher risk of cardiovascular diseases by traditional astrology. Since personality traits have been reported to correlate with reduced heart rate variability (HRV), we therefore investigated whether the Zodiac sign of Leo is associated with reduced HRV in healthy individuals.

Methods: The study population was drawn from an intramural registry of Taipei Veterans General Hospital (TARGET registry), conducting to enroll patients from June 2009 to December 2012 for the surveys of cardiovascular diseases. Healthy individuals were defined by the absence of prior cardiovascular events, diabetes, hypertension, or eGFR < 60ml/min/1.73m². HRV indices were measured from 24-hour ambulatory electrocardiography. Time-domain HRV indices consisted of standard deviation of the normal interbeat intervals (SDNN), the standard deviation of the 5-minute average normal interbeat intervals (SDANN), the root mean square of the successive difference between adjacent normal interbeat intervals (RMSSD), and the percentage of adjacent intervals that varied by >20ms (pNN20), whereas frequency-domain HRV indices included high-frequency power (HF; 0.15–0.40 Hz), low-frequency power (LF; 0.04–0.15 Hz), and very-low-frequency power (VLF; 0.003–0.04 Hz). A natural logarithmic transformation was used to normalize the distribution of the frequency-domain HRV indices.

Results: A total of 3,168 healthy individuals (35.7±10.9 years, 30.6% men) with complete 24-hour ambulatory electrocardiography recordings were drawn from the registry.

Among them, 264 (8.3%) subjects were recognized Zodiac sign of Leo. Compared with the non-Leo subjects, Leo had significantly lower time-domain HRV indices (SDNN, SDANN, RMSSD, and pNN20) and frequency-domain HRV indices (Ln VLF, Ln HF, and Ln TP). After adjusting for age, gender, and body mass index, the presence of Leo remained significantly associated with the reduced HRV indices. In multivariable logistic regression **analysis, both time-domain [SDNN: odds ratio and 95% confidence interval: 0.98, 0.97-0.99; SDANN: 0.98, 0.97-0.99; pNN20: 0.97, 0.95-0.98]** and frequency-domain [Ln VLF: 0.59, 0.40-0.87; Ln HF: 0.70, 0.53-0.92; Ln TP: 0.62, 0.43-0.90] HRV indices were independently predictive of Leo in healthy individuals.

Conclusions: Healthy individuals with zodiac sign of Leo had significantly lower HRV than the others, suggesting that personality traits categorized by zodiac signs could possibly modulate the balance of sympathetic and parasympathetic outflow. However, whether the reduced HRV indices

modulate cardiovascular risks in Leo required further investigation.