

中文題目：糖尿病腎衰竭患者之年紀對透析後之心跳變異度變化之影響性

英文題目：Effect of age on heart rate variability change after hemodialysis in diabetic patients

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**Background:** Heart rate variability (HRV) is a non-invasive measure of autonomic nervous system, which reflects beat-to-beat variability in heart rate, and has been successfully applied in chronic dialysis patients. Previous studies had shown that diabetic hemodialysis (HD) patients had autonomic dysfunction. However, no studies evaluated effects of age on change in HRV in HD patients with diabetes. This study aims to examine effects of age on change in HRV in diabetic HD patients with diabetes.

**Materials and Methods:** This study enrolled 84 diabetic maintenance HD patients. HRV was measured before and after HD to assess the change in HRV ( $\Delta$ HRV). Patients were divided into 2 groups based on patient's age  $<$  or  $\geq$  65 years.

**Results:** Compared with patients' age  $<$ 65 years, patients with age  $\geq$  65 years had lower  $\Delta$ HF% ( $p = 0.023$ ). In patients with age  $<$ 65 years, LF significantly increased after HD ( $p = 0.019$ ). In patients with age  $\geq$  65 years, LF% and LH/HF significantly increased, and HF% significantly decreased after HD. In multivariate analysis after adjustment for demographic, clinical, and biochemical characteristics and medications, high diastolic blood pressure (BP) and high ultrafiltration is independently associated with increased  $\Delta$ LF in patients with age  $<$ 65 years. Besides, in patients with age  $\geq$  65 years, cerebrovascular disease (CVD), systolic BP, glucose and HDL-cholesterol were associated with  $\Delta$ HRV change.

**Conclusions:** Our study demonstrated significant  $\Delta$ HRV change after HD in diabetic patients, regardless of age. Moreover, CVD, systolic and diastolic BP, glucose, lipid and ultrafiltration were associated with  $\Delta$ HRV change.

**Key words:** heart rate variability, diabetes, elderly, hemodialysis