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Factors associated with slow gait speed in elderly patients with heart failure

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【Purpose】

Gait speed has been shown to independently predict mortality and disability in elderly patients with HF. However, which factors relate to slow gait speed is not fully understood yet. This study aimed to examine factors related to slow gait speed in elderly patients with HF.

【Methods】

The subjects were patients with HF 65 years old and over who were admitted to Kitano Hospital for decompensated HF. Patients were excluded if they could not walk independently no matter what walking aid was used. All measurements were examined prior to discharge. Gait speed was tested over distance of 4m. Patients were divided into two groups according to the definition of slow gait speed in previous studies (gait speed < 0.8 m/sec). Student's t-test and chi-squared test were used to compare clinical characteristics including the severity of HF, co-morbidities, grip strength, geriatric nutritional risk index (GNRI) and Mini-Mental State Examination (MMSE) between the two groups. Logistic regression analysis was used to examine the independent association with slow gait speed.

【Results】

Sixty one patients (aged 80.9 ± 8.3 years) were enrolled, out of which 34 patients were defined as slow gait speed. Age, BMI, grip strength, GNRI and MMSE were significantly different between two groups. However, there was no significant difference in severity of HF. In logistic analysis, grip strength (OR = 0.854 95%CI: 0.761-0.952, P = 0.021) and MMSE (OR = 0.788, 95%CI: 0.658-0.944, P = 0.019) were independent related factors of slow gait speed.

【Discussion】

Slow gait speed was associated with not only reduced muscle strength but also cognitive impairment. The findings indicate that cognitive impairment might be an independent related factor for the relationship between gait speed and fundamental physical function. Therefore, physical function should be assessed in conjunction with cognitive function particularly in elderly HF patients.