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Echocardiographic features of ultra-elderly heart failure patients in Japan: secondary tricuspid regurgitation due to atrial fibrillation

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Topic(s):
Chronic Heart Failure – Epidemiology, Prognosis, Outcome

Citation:
Background: Japan has the oldest population, with 27.7% of its citizens aged over 65 years in 2017. Moreover, there are over 10 million people over 80 years old in Japan. With the rapidly aging population in Japan and European countries, the prevalence of heart failure (HF) is expected to rise continuously, because the incidence of HF increases with age. Therefore, it seems important to evaluate clinical characteristics of current ultra-elderly HF patients for prevention of future HF.

Purpose: To explore echocardiographic features of ultra-elderly patients with HF.

Methods: We enrolled 102 patients (mean age 78 ± 13 years, 40 male) who were admitted to our hospital for treatment of HF. The diagnosis of HF was based on the Framingham criteria. Patients who have received cardiac surgery or with primary valve disease were not enrolled in this study. We divided our patients into two groups stratified according to age (= 80 and < 80 years old). Then, we compared echocardiographic parameters of the patients between both groups.

Results: Most common comorbid disease were atrial fibrillation (n = 55 [54%]), followed by hypertension (n = 50 [49%]), diabetes (n = 20 [20%]). Compared with patients with age < 80 years (n = 36, mean age, 66 ± 11 years), left ventricular ejection fraction was significantly higher (51 ± 14% vs 42 ± 14%, p < 0.01), tricuspid regurgitation (TR) velocity was significantly greater (2.9 ± 0.6m/sec vs 2.4 ± 0.6m/sec, p <0.01) in patients with age = 80 years (n = 66, mean age, 87 ± 4 years). Left ventricular mass index and E/e’ were similar in both groups. Although the prevalence of atrial fibrillation and significant (moderate or severe) mitral regurgitation were similar, the prevalence of significant TR was significantly higher in patients with age = 80 years (n = 33 [50%] vs n = 6 [17%], p < 0.01). Interestingly, in patients with atrial fibrillation, the prevalence of significant TR was significantly higher in patients with age = 80 years compared to patients with age < 80 years; in contrast, in patients with sinus rhythm, the prevalence of significant TR was similar and low in both age groups (Figure).

Conclusion: Current ultra-elderly patients with HF had preserved ejection fraction, greater TR velocity. Moreover, the prevalence of significant TR due to atrial fibrillation was very common. Therefore, early aggressive rhythm control strategy may become one of therapeutic option to prevent TR and future HF.
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