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THE PREVALENCE AND CORRELATED RISK FACTORS OF ARRHYTHMIA IN PATIENTS WITH CHRONIC SYSTOLIC HEART FAILUREYu Shengbo *Renmin Hospital of Wuhan University*

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Objective To investigate the prevalence of arrhythmia in patients with chronic systolic heart failure (CSHF) in Hubei province and analyse the correlation between atrial fibrillation (AF), premature ventricular contracts (PVCs), ventricular tachycardia (VT) and age, NYHA heart function classification, left ventricular ejection fraction (LVEF), aetiology, respectively.

Methods Data of in-hospital patients with CSHF were investigated between 2000 and 2010 from 12 hospitals in Hubei Province. Univariate and multivariate logistic proportional hazard analysis were performed to determinate the relationships between AF, PVCs, VT and age, NYHA heart function classification, LVEF, aetiology, respectively.

Results (1) PVCs, AF, atrial tachycardia and VT are the common arrhythmia in patients with CSHF which account 68.30%, 40.81%, 21.16% and 14.50%, respectively. (2) The HRs (95% CI) of AF for patients in 40–50, 50–60, 60–70, 70–80 and ≥80 age were 1.670 (1.237 to 2.253, $p<0.01$), 2.315

(1.759 to 3.047, $p<0.01$), 3.103 (2.368 to 4.067, $p<0.01$), 3.805 (2.911 to 4.972, $p<0.01$) and 5.018 (3.771 to 6.676, $p<0.01$), respectively, compared with patients in <40 years group. While there were no significant difference among different age groups in HR of PVCs and VT in multivariate logistic analysis. (3) The HRs (95% CI) of AF or VT for patients in LVEF 31–40%, 21–30% and $\leq 20\%$ group were 1.565 (1.446 to 1.717, $p<0.01$), 1.640 (1.225 to 1.923, $p<0.01$) and 2.104 (1.925 to 2.223, $p<0.01$), respectively; 1.760 (95% CI 1.218 to 2.345, $p<0.01$), 2.396 (95% CI 2.019 to 2.783, $p<0.01$) and 4.209 (95% CI 3.554 to 4.862, $p<0.01$), respectively, compared with patients in LVEF 41–50% group. However, there is no significant difference among different LVEF groups in HR of PVCs in multivariate logistic analysis. (4) The HRs (95% CI) of AF, PVCs and VT for patients with dilated cardiomyopathy, hypertension heart disease or valvular heart disease were 1.876 (1.608 to 2.188, $p<0.01$), 1.297 (1.132 to 1.486, $p<0.01$) and 12.111 (9.820 to 14.937, $p<0.01$), respectively; 1.143 (1.082 to 1.224, $p<0.01$), 0.559 (0.322 to 0.743, $p<0.01$) and 0.896 (0.775 to 1.211, $p=0.358$), respectively; 1.189 (95% CI 1.096 to 1.284, $p<0.01$), 0.430 (95% CI 0.381 to 0.497, $p<0.01$) and 0.530 (95% CI 0.421 to 0.652, $p<0.01$), respectively, compared with patients in coronary heart disease group.

Conclusions PVCs, AF, atrial tachycardia and VT are the common arrhythmia in patients with CSHF. The risk of AF morbidity increases as age increases or LVEF decreases and varies in patients with different aetiology. The risk of PVCs morbidity varies in patients with different aetiology while was not affected by age, NYHA or LVEF. The risk of VT morbidity increases as LVEF decreases and is different in patients with different aetiology.