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THE EFFECT OF STATINS IN CHRONIC HEART FAILURE: BEYOND ITS CHOLESTEROL-LOWERING EFFECT

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Objectives HMG-CoA reductase inhibitors (statins) have been shown to reduce mortality and cardiovascular morbidity in patients with hyperlipidaemia and those with coronary artery disease. However, evidence for statin treatment in Chinese patients with chronic heart failure (CHF) remains a subject of debate. The prognostic benefit of statins in patients with CHF is a topic of controversy. Under the hypothesis that statins may provide greater benefit in a subgroup of patients with heightened inflammatory activity, we sought to explore whether statins are associated with a decreased risk of long-term mortality, and whether statin administration influenced prognosis, inflammatory activation and myocardial performance in patients with CHF.

Methods A total of 622 consecutive outpatients aged 18 years or older with CHF of New York Heart Association class II-IV and normal total cholesterol levels, irrespective of cause and left ventricular ejection fraction (mean follow-up 414 days) were enrolled and randomly assigned to treatment with or without statins. Primary endpoints were rehospitalisation for HF and cardiac death or admission to hospital for cardiovascular reasons. Analysis was by intention to treat. In all patients, several Tissue Doppler Imaging parameters were measured; circulating levels of NT-proBNP, interleukin (IL)-6, IL-10 and C-reactive protein were also assayed.

Results Statin administration in 308 subjects with CHF was associated with a lower incidence of adverse events (rehospitalisation for HF 15% vs 46%, $p<0.001$; admission to hospital for cardiovascular reasons 25% vs 61%, $p<0.01$; cardiac death 1% vs 9%, $p<0.05$), and better Tissue Doppler Imaging performance (E/E' ratio 11.72 ± 5.13 vs 20.05 ± 8.27 , $p<0.001$; ET: 275.12 ± 49.21 vs 221.23 ± 38.87 ms, $p<0.05$; TP: 181.79 ± 43.73 vs 139.7 ± 33.18 ms, $p<0.05$ and St: 351.11 ± 63.17 vs 308.67 ± 76.46 ms, $p<0.05$). Patients receiving statins presented with reduced NT-proBNP levels (1622 ± 3416 vs 3771 ± 6763 pg/ml; $p<0.01$), and lower circulating levels of IL-6 ($p<0.05$) and IL-10 ($p<0.01$). In both groups, gastrointestinal disorders were the most frequent adverse reaction (1% statin group vs 2% placebo group $p>0.05$).

Conclusions For Chinese CHF outpatients undergoing statin treatment had fewer readmissions for adverse events, blunted inflammatory activation and improved left ventricular performance. Statins treatment was equally effective in patients with ischaemic and nonischaemic CHF and may represent an additional option for patients with this disease.