Comparison of long-term prognostic impact of sarcoidosis as etiology with dilated cardiomyopathy in patients with heart failure in a nationwide heart failure registry

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Background: It remain largely unknown whether the prognostic impact of sarcoidosis (SC) prior to heart failure (HF) differs from dilated cardiomyopathy in patients with HF over time.

Aim: To investigate the prognostic impact of prior sarcoidosis in HF patients and compare to those with HF due to dilated cardiomyopathy (DCM) by access to Swedish Heart Failure Registry which is further validated by cross linkage with Swedish National Patient Register and supplemented by Swedish National Cause of Death Register.

Methods: Patients with sarcoidosis before HF diagnosis (SC-HF group) versus patients with HF due to DCM (DCM-HF group) were identified from the Swedish Heart failure Registry between 2003-2020. The primary outcome is all-cause mortality and secondary outcome is composite CV death or hospitalization due to worsening HF in both overall cohort and propensity score-matched cohort.

Results: A total of 422 patients (69.6±13.5, male 60.7%) in SC-HF group and 6913 patients (61.7±13.5, male 72.5%) in DCM-HF group were identified. Patients with DCM were younger, had less comorbidities (renal failure, hypertension, atrial fibrillation, valvular heart disease, chronic obstructive pulmonary disease, diabetes, stroke, cancer, musculoskeletal disease) and more prescriptions of ACEI/ARB/ARNI, beta blockers and MRA) and less treatment with corticosteroids (10.6% vs 44.1%) but similar in diuretics and device therapy (ICD, CRT). In overall cohort, after adjustment for age, sex, HF duration, NYHA, LVEF, NT-proBNP cat., eGFR, the risk for all-cause mortality in SC-HF was significantly higher in SC-HF than DCM-HF [the hazard ratio (95% CI): 1.54 (1.32 - 1.81) p =< .0001]. Likewise, the risk for composite CV death or HF hospitalization in SC-HF was significantly higher in SC-HF than DCM-HF (the hazard ratio (95% CI): 1.21 (0.95 - 1.54), p = 0.13140 (1.24 - 1.59), p =< .0001. Furthermore, in a propensity score-matched cohort in which 365 from SC-HF group were compared with 736 patients in DCM-HF group. Over a median follow-up of 3.1 years (1.4-5.79), SC-HF group has a higher risk of all-cause mortality [ HR: 1.35 (1.11 - 1.65), p = 0.0033], and of CV death or HF Hospitalization [1.28 (1.09 - 1.50), p = 0.0021] than DCM-HF group.

Conclusion: Sarcoidosis has greater negative impact on prognosis for heart failure than dilated cardiomyopathy with increased risk for both mortality and morbidity.