Heart Failure

PREVALENCE, PREDICTORS AND PROGNOSIS OF IRON DEFICIENCY IN PATIENTS WITH CHRONIC HEART FAILURE: AN INTERNATIONAL POOLED ANALYSIS OF 1,506 PATIENTS

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Background: Iron deficiency (ID) is an emerging problem in patients with chronic heart failure (HF) and has been proposed as a potential therapeutic target. The aim of this study was to examine the prevalence, clinical predictors and prognosis of ID in patients with chronic HF.

Methods: In an international pooled cohort comprising 1506 patients with chronic HF, we measured iron status and studied its association with morbidity and mortality.

Results: Iron deficiency (defined as a ferritin level < 100 μg/L or ≥ 100 and ≤ 300 μg/L with a transferrin saturation < 20%) was common, affecting half of the patients (50.0%). Anemic patients (defined as a hemoglobin level < 12 g/dL in women and < 13 g/dL in men) were more often iron deficient than non-anemic patients (35% vs. 22%; p < 0.001). Iron deficiency appeared to be closely related to disease severity, female gender and the presence of anemia. During follow-up [921 ± 750 days (mean ± standard deviation)] 440 patients died (29.2%). Kaplan Meier survival analysis revealed ID as a strong predictor of mortality (log rank ⊠2 test 10.2; p = 0.001). In multivariable hazard models, ID (and not anemia) was a strong and independent predictor of mortality (hazard ratio 1.40; 95% confidence interval 1.12-1.74; p = 0.005). Finally, the presence of ID significantly enhanced risk classification and integrated discrimination improvement when added to a prediction model with established risk factors.

Conclusion: ID is commonly observed in chronic HF patients and a strong and independent predictor of outcome. In this study, ID appeared to be prognostically more predictive than anemia.