Differential Prognostic Impact of Resting Heart Rate in Older Compared to Younger Patients with Chronic Heart Failure - Insights from TIME-CHF

Marzena Zurek, Micha T. Maeder, Hans Rickli, Stefano Muzzarelli, Sandra Sanders-van Wijk, Heidi Abbühl, Rolf Handschin, Urs Jeker, Matthias Pfisterer, Hans-Peter Brunner-La Rocca & TIME-CHF Investigators

BACKGROUND
There is little information regarding the prognostic role of resting heart rate (HR) in older compared to younger patients with chronic heart failure (HF).

METHODS AND RESULTS
In patients enrolled in the Trial of Intensified Medical therapy in Elderly patients with Congestive Heart Failure (TIME-CHF) with sinus rhythm, effects of baseline HR (≥70 vs. <70 bpm) on 18 months outcomes were compared between older (≥75 years; n=186) and younger (<75 years; n=141) patients. Older patients with lower (61±6 bpm) and higher (83±9 bpm) HR had similar left ventricular ejection fraction (LVEF), NYHA class, N-terminal-pro-B-type natriuretic peptide (NT-proBNP), and survival and HF hospitalization-free survival. In contrast, younger patients with higher HR (81±7 bpm) had higher NT-proBNP and NYHA class and lower LVEF, and a higher risk of death [hazard ratio = 4.01 (95%-confidence interval, 1.17 - 13.69); p= 0.02] and death or HF hospitalization [hazard ratio=2.35 (95%-confidence interval, 1.01-5.50); p= 0.04] than those with lower HR (62±5 bpm) with the association between higher HR and survival remaining significant after adjustment for NYHA class, LVEF, and NT-proBNP.

CONCLUSIONS
In contrast to HF patients aged <75 years we found no association between HR and worse outcomes in HF patients aged ≥75 years.

CLINICAL TRIAL REGISTRATION: URL