

Cardiovascular Kidney Metabolic Overlap in Heart Failure with Mildly Reduced or Preserved Ejection Fraction: A Temporal Analysis of Randomized Clinical Trials

John W Ostrominski, MD; Brian L. Claggett, PhD; Zi Michael Miao, MS; Finnian R Mc Causland, MBBCh MMSc; Inder S Anand, MD; Akshay S Desai, MD; Pardeep S. Jhund, MBChB MSc PhD; Carolyn S.P. Lam, MBBS PhD; Marc A Pfeffer, MD PhD; Bertram Pitt, MD; Faiez Zannad, MD PhD; Michael R Zile, MD; Antonietta B Wirtz, MD; James Lay Flurrie MSc; Prabhakar Viswanathan, MBBS PhD; John JV McMurray, MD; Scott D Solomon, MD; Muthiah Vaduganathan, MD MPH

Background

- Cardiovascular, kidney, and metabolic (CKM) conditions frequently coexist in individuals with HF with mildly preserved or preserved ejection fraction (HFmrEF/HFpEF)
- Few data are available tracking the longitudinal burden of CKM among patients with HF

Study Aim

In this analysis, we assessed temporal evolution in CKM conditions and their overlap among participants enrolled in several major HFmrEF/HFpEF trials.

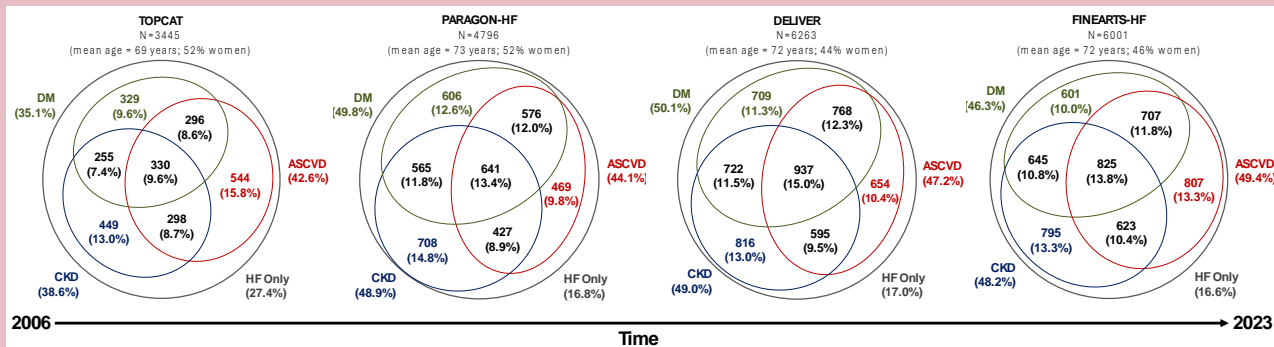
Methods

- I-Preserve, TOPCAT, PARAGON-HF, DELIVER, and FINEARTS-HF enrolled patients between 2002-2005, 2006-2012, 2014-2016, 2018-2020, and 2020-2023, respectively

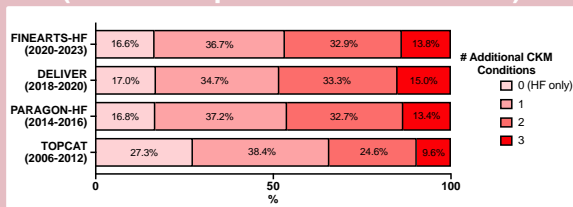
- More Comprehensive Definition: ASCVD (defined as history of MI, PCI, CABG, stroke, or PAD), CKD (defined as eGFR <60 mL/min/1.73 m²), and/or DM (defined by history or HbA1c ≥ 6.5%).

- Less Comprehensive Definition: ASCVD (defined as history of MI or stroke), CKD (defined as eGFR <60 mL/min/1.73 m²), and DM (defined by history alone).

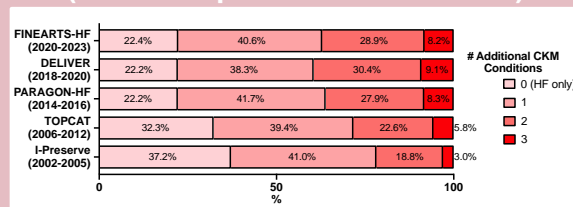
Figure 1: CKM Overlap in Several Large-Scale HFmrEF/HFpEF Trials, 2006-2023



of CKM Conditions (More Comprehensive Definition)



of CKM Conditions (Less Comprehensive Definition)



In this analysis of global, multicenter RCTs, overlap between HFmrEF/HFpEF and other CKM conditions was substantial, increased over time, and was associated with adverse outcomes.