

SUPPLEMENTAL MATERIAL

Supplemental Table 1A. Incidence Rates for Heart Failure Hospitalization during 1-year of Follow-up, stratified by the baseline heart failure history

Supplemental Table 1B. Incidence rate ratio (95% CI) for heart failure hospitalization during 1-year follow-up period, stratified by the baseline heart failure history

Supplemental Table 2. Incidence rate ratio (95% CI) for heart failure hospitalization during 1-year follow-up period, using 2 definitions of iron deficiency

Supplemental Table 1A. Incidence Rates for Heart Failure Hospitalization during 1-year of Follow-up, stratified by the baseline heart failure history

	Patients (N)	Time at Risk (Patient-Years)	HF Events (N)	Incidence Rate*	Adjusted Incidence Rate**
Entire Study Cohort (N=78,551)					
Reference	38,355	32,368	1,518	4.7	5.1
Low Iron	16,335	13,391	994	7.4	6.5
High Iron	13,312	11,296	372	3.3	4.1
Functional Iron Deficiency	10,549	8,530	661	7.7	6.3
Heart failure cohort (N=18,972)					
Reference	8,515	6,719	1,064	15.8	15.6
Low Iron	4,639	3,477	734	21.1	19.6
High Iron	2,591	2,058	251	12.2	12.3
Functional Iron Deficiency	3,227	2,398	489	20.4	18.8
Non-heart failure cohort (N=59,579)					
Reference	29,840	25,649	454	1.8	1.8
Low Iron	11,696	9,914	260	2.6	2.5
High Iron	10,721	9,238	121	1.3	1.5
Functional Iron Deficiency	7,322	6,131	172	2.8	2.6

*Incidence Rate refers to heart failure events per 100 patient-years (HF Events/ Time at Risk x 100).

**Adjusted incidence rate reflects the heart failure incident rate per 100 patient-years after applying the matching weights. Patients with previous history of heart failure have higher rates of subsequent heart failure hospitalization, but the association between iron deficiency and higher heart failure risk remains consistent regardless of the heart failure history at baseline.

Supplemental Table 1B. Incidence rate ratio (95% CI) for heart failure hospitalization during 1-year follow-up period, stratified by the baseline heart failure history

	Total study cohort (N=78,551)	History of heart failure at baseline (N=18,972)	No history of heart failure at baseline (N=59,579)
Reference	REF	REF	REF
Low Iron	1.29 (1.19, 1.41)	1.26 (1.14, 1.40)	1.36 (1.15, 1.60)
High Iron	0.82 (0.72, 0.92)	0.79 (0.68, 0.91)	0.85 (0.69, 1.05)
Functional Iron Deficiency	1.25 (1.13, 1.37)	1.21 (1.07, 1.35)	1.41 (1.18, 1.70)

Supplemental Table 2. Incidence rate ratio (95% CI) for heart failure hospitalization during 1-year follow-up period, using conventional definitions of iron deficiency

	Quartile definition (as defined in Methods)	Conventional definition Low Iron: Transferrin saturation <20% and Ferritin <100 Functional iron deficiency: Transferrin saturation <20% and ferritin ≥100
Reference	REF	REF
Low Iron	1.29 (1.19, 1.41)	1.34 (1.23, 1.46)
High Iron	0.82 (0.72, 0.92)	0.88 (0.78, 1.00)
Functional Iron Deficiency	1.25 (1.13, 1.37)	1.29 (1.18, 1.41)