Supplemental Table 1.

Crude and age-standardized incidence rates of the most frequent cancer sites (excluded non-melanoma skin cancer), both in the study population and in the general Spanish population. Incidence rates are expressed in episodes per 100,000 patients-years. IR, Incidence Rate.

	Women						**Men**				
	Study population			**General Spanish population***			**Study population**			**General Spanish population****	
	Cases	**Crude IR (95% CI)**	**Age-standardized IR**	**Crude IR**	**Age-standardized IR**		**Cases**	**Crude IR (95% CI)**	**Age-standardized IR**	**Crude IR**	**Age-standardized IR**
Lung	7	275.1 (71.3–478.8)	272.2	22.4	15.6		28	447.3 (281.6–613)	210.3	100.5	69.7
Colorectal	1	39.3 (1.0–218.9)	–	63.1	35.5		17	271.6 (142.5–400.7)	142.8	104.7	70
Breast	8	314.4 (96.5–532.2)	260.3	125.2	94.4		1	16.0 (0.4–89.0)	–	_	–
Prostate	–	–	–	–	–		23	367.4 (217.3–517.6)	135.6	144	101.7

*Crude and age-standardized incidence rates of selected cancer sites (lung, colorrectum, breast) expected for the general Spanish population of women aged ≥15 years in the year 2010, according to the Global Cancer Observatory. Source: *https://gco.iarc.fr/overtime/en*.

**Crude and age-standardized incidence rates of selected cancer sites (lung, colorrectum, prostate) expected for the general Spanish population of men aged ≥15 years in the year 2010, according to the Global Cancer Observatory. Source: *https://gco.iarc.fr/overtime/en*.

Age-standardized rates were calculated by the direct method, taking the modified world standard population proposed by Doll et al as a reference. Doll R, Payne P, Waterhouse J. Cancer incidence in five countries: a technical report. Berlin: Springer-Verlag Berlin Heidelberg; 1966. Available in *https://www.springer.com/gp/book/97835400347*

Supplemental Table 2. Univariate coefficients of all baseline variables explored as potential risk factors for malignancy in the study cohort: Fine-Gray competing risk regression analyses.

Variable	**Univariate Hazard Ratio**	**95% Confidence Interval**	**P value***
Age (years)	1.03	1.02–1.04	**<0.01**
Female gender	0.68	0.46–1.01	**0.05**
Previous history of malignancy	1.29	0.83–1.99	0.258
History of alcohol abuse	1.21	0.86–1.70	0.27
History of smoking	1.45	1.04–2.03	**<0.01**
Body mass index (kg/m2)	1.00	0.98–1.03	0.88
Hypertension	1.16	0.84–1.59	0.37
Diabetes mellitus	1.09	0.78–1.52	0.61
Dyslipidaemia	1.19	0.87–1.65	0.26
Coronary artery disease	1.31	0.95–1.79	**0.09**
Chronic pulmonary obstructive disease	1.71	1.12–2.61	**0.01**
Chronic renal dysfunction	1.13	0.81–1.59	0.47
Anaemia	1.16	0.82–1.64	0.39
New York Heart Association class III or IV	0.79	0.56–1.12	0.19
Serum NTproBNP (ng/ml)	1.00	0.99–1.00	0.36
Left ventricular ejection fraction (%)	1.00	0.99–1.01	0.67
Diuretic use	0.98	0.66–1.65	0.92
Angiotensin converter enzyme inhibitor use	1.40	1.00–1.95	**0.05**
Angiotensin II receptor blocker use	0.85	0.54–1.35	0.49
Sacubitril-valsartan use	0.74	0.34–1.56	0.43
Beta-blocker use	1.13	0.67–1.91	0.64
Mineralocorticoid receptor antagonists	0.80	0.58–1.10	0.17
Digoxin use	1.08	0.63–1.85	0.77
Ivabradine use	0.94	0.46–1.92	0.86

*Variables that showed a univariate p-value <0.10 were selected for entering the first step of multivariable backward stepwise analysis.

Supplemental Table 3. Causes of death in patients with heart failure and a history of pre-existing malignancy, newly diagnosed malignancy during follow-up or no malignancy.

Causes of death (n=536)	**Pre-existing malignancy (n=98)**	**Newly diagnosed malignancy (n=77)**	**No malignancy (n=361)**
Cardiovascular			
Sudden death	14 (14.3%)	9 (11.7%)	109 (30.2%)
Heart failure	22 (22.4%)	10 (13%)	140 (38.8%)
Other cardiovascular causes	11 (11.2%)	1 (1.3%)	32 (8.9%)
Non cardiovascular			
Cancer	22 (22.4%)	52 (67.5%)	0
Infection	18 (18.4%)	4 (5.2%)	45 (12.5%)
Other non-cardiovascular causes	11 (11.2%)	1 (1.3%)	24 (6.6%)
Not specified	0	0	11 (3%)

Supplemental Table 4. Source of data about cancer diagnoses in previous studies that addressed the incidence of cancer in patients with heart failure.

Authors	Reference	Region/country	Source of data	Description
Hasin et al.	J Am Coll Cardiol 2013; 62: 881-86.	Oldmest County (Minnesota, United States)	Rochester Epidemiology Project	Medical records linkage system
Hasin et al.	J Am Coll Cardiol 2016; 68: 265-71.	Oldmest County (Minnesota, United States)	Rochester Epidemiology Project	Medical records linkage system
Banke et al.	Eur J Heart Fail 2016; 18: 260-66	Denmark	Danish National Patient Registries	Administrative database
Kwak S et al.	J Cardiol 2021; 77: 231-38.	South Korea	Korean National Health Insurance Database	Administrative database
Roderburg C et al.	ESC Heart Fail 2021; 8: 3628-33	Germany	Disease Analyzer Database	Administrative database
Bertero E et al.	JACC CardioOncol 2022; 4: 98-109	Puglia (Italy)	Various administrative databases	Administrative databases
Scwartz B et al.	Int J Cardiol 2020; 316:209-213.	Denmark	Danish Nationwide Administrative Database	Administrative database