Supplement 1   Multivariable predictors for CV death mortality by ejection fraction category

Variable	HFrEF		HFmrEF		HFpEF	
	HR (95% CI)	*P*	HR (95% CI)	*P*	HR (95% CI)	*P*
QRS(%)[a]						
Q2	–	–	–	–	0.397(0.21-0.749)	0.004
Q3	–	–	–	–	0.371(0.19-0.724)	0.004
Age (years)[b]						
60-69	0.787(0.389-1.591)	0.504	–	–	–	–
≥70	1.98(1.058-3.706)	0.033	–	–	–	–
BMI (kg/m^2)[c]						
24-27.9	–	–	–	–	0.762(0.453-1.282)	0.306
≥28	–	–	–	–	0.172(0.041-0.722)	0.016
Myocardial infarction	–	–	3.731(1.304-10.675)	0.014	1.947(1.062-3.571)	0.031
Hb（g/L）	–	–	0.969(0.944-0.996)	0.022	0.982(0.972-0.992)	0.000
ACE inibitors/ARBs	0.373(0.223-0.624)	0.000	–	–	–	–
BNP (pg/mL)	1(1-1)	0.003	1(1-1.001)	0.050	1(1-1)	0.010
Sodium (mmol/L)	0.904(0.866-0.944)	0.000	–	–	–	–
LAD (mm)	–	–	1.089(1.03-1.152)	0.003	1.029(1.013-1.046)	0.000
Stroke and TIA	1.876(1.015-3.469)	0.045	–	–	–	–
Creatinine（umol/L）	–	–	1.007(0.999-1.015)	0.067	–	–

Adjused for gender,age,coronary disease,SBP,DBP,Hb,WBC,FBP,AST,ALT,BNP,TC,LDL-c,Sodium,Creatinine,BUN,BNP,BMI,LAD,LVEDD,QRS fraction,myocardial infarction,stroke and TIA,Diuretics,ACE inibitors/ARBs.
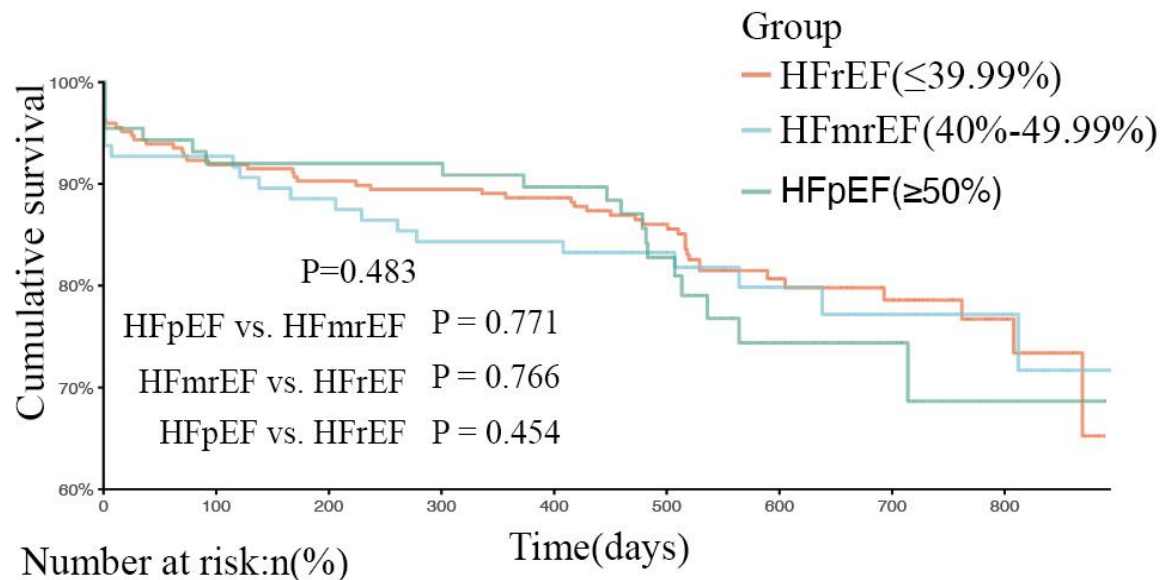
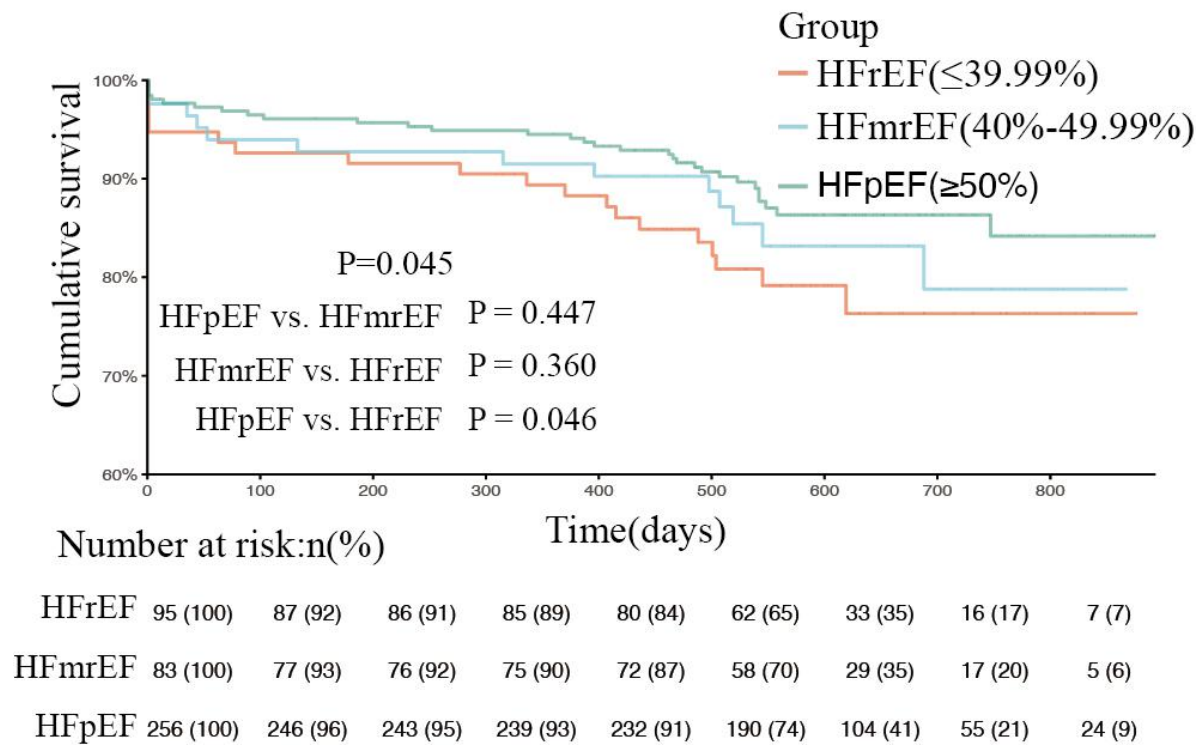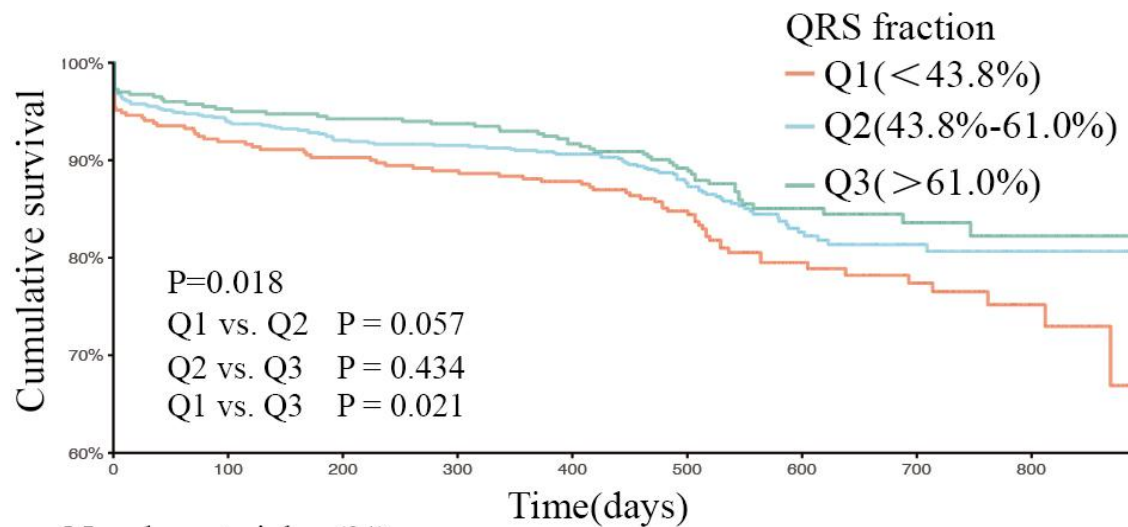Supplementary Fig 1. KM plots of patients with lower QRS fraction at different ejection fraction levels.
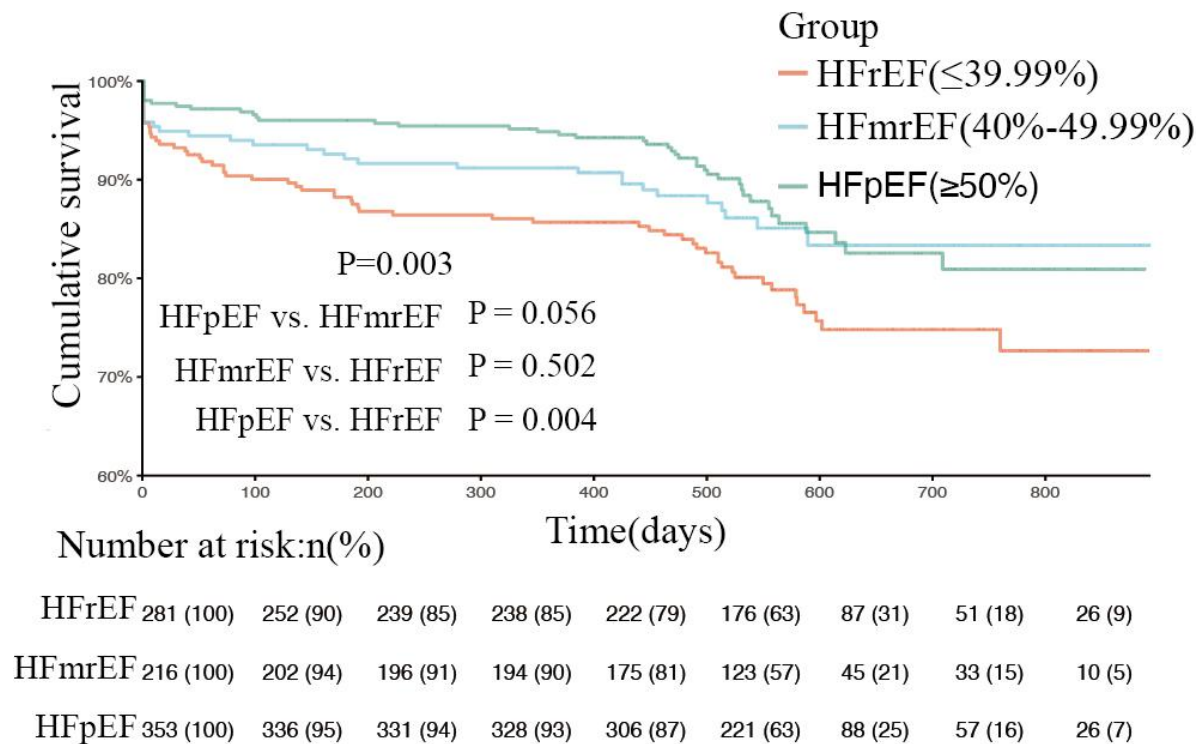
Supplementary Fig 2. KM plots of patients with middle QRS fraction at different ejection fraction levels.
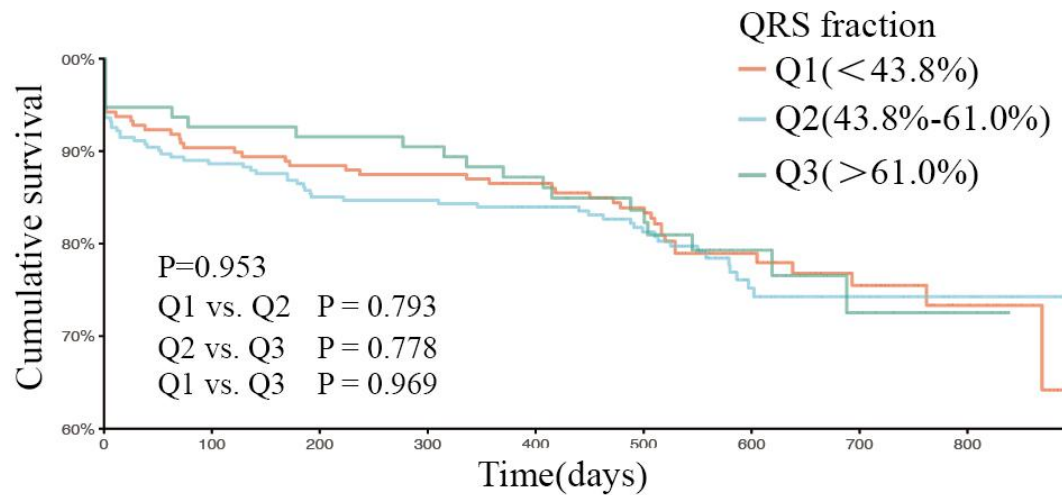
Supplementary Fig 3. KM plots of patients with higer QRS fraction at different ejection fraction levels.

Supplementary Fig 4. KM plots of patients with heart failure at different QRS levels

Cumulative survival (y-axis)

QRS fraction
- Q1(<43.8%)
- Q2(43.8%-61.0%)
- Q3(>61.0%)

P=0.953
Q1 vs. Q2 P = 0.793
Q2 vs. Q3 P = 0.778
Q1 vs. Q3 P = 0.969

Time(days)

Number at risk:n(%)

Q1 208 (100)	187 (90)	183 (88)	181 (87)	173 (83)	151 (73)	80 (38)	58 (28)	22 (11)
Q2 282 (100)	249 (88)	235 (83)	234 (83)	219 (78)	170 (60)	82 (29)	47 (17)	23 (8)
Q3 95 (100)	87 (92)	86 (91)	85 (89)	78 (82)	63 (66)	34 (36)	15 (16)	5 (5)

Supplementary Fig 5. KM plots of patients with reduced ejection fraction at different QRS levels
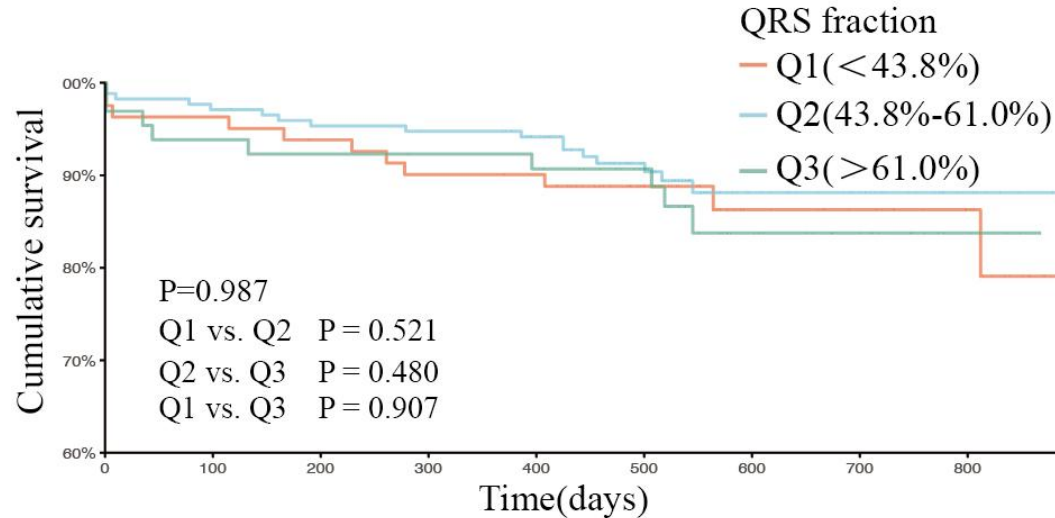
Supplementary Fig 6. KM plots of patients with mild reduced ejection fraction at different QRS levels
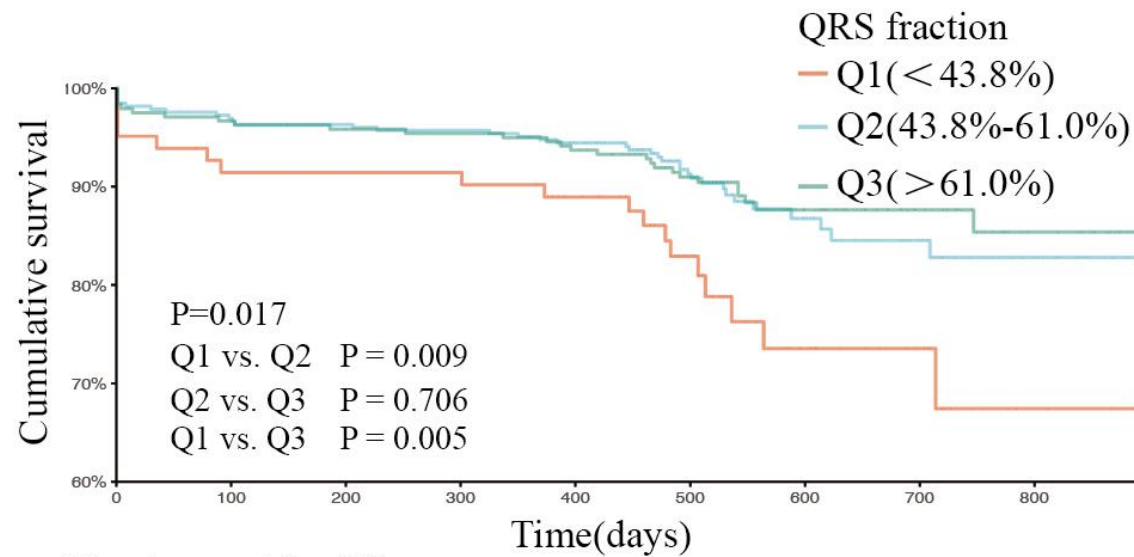
Supplementary Fig 7. KM plots of patients with preserved ejection fraction at different QRS levels