

Three-year outcomes of selective incomplete versus complete revascularization in heart failure patients receiving multivessel percutaneous coronary intervention

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Background: Heart failure (HF) patients with multi-vessel disease (MVD) are often associated with comorbidities to limit the possibility to achieve complete revascularization (CR) in percutaneous coronary intervention (PCI). The planned selective incomplete revascularization (SIR) may be an alternative opinion for these patients.

Purpose: To investigate 3-year clinical outcomes of SIR versus CR in HF patients with MVD in a real-world registry.

Methods: A total of 566 HF patients with MVD receiving either SIR or CR were enrolled. SIR was planned pre-PCI based on clinical exams to avoid non-viable tissue revascularization. Major adverse cardiac events (MACEs)

was a composite of in-hospital death, recurrent myocardial infarction, any revascularization, and all-cause death at 3-year follow-up.

Results: There was no significant differences between SIR and CR groups in in-hospital death, any revascularization, all-cause death and MACEs (24.3% vs. 24.9%, $p=0.922$). However, SIR had a significant lower incidence of recurrent myocardial infarction than CR (3.2% vs. 7.2%, $p=0.032$).

Conclusion: The 3-year outcomes of PCI with planned SIR were completely comparable to with CR in HF patients with MVD. Planned SIR can be an opinion for HF patients with MVD who are not suitable to achieve CR.

Baseline characteristics

	SIR (n=317)	CR (n=249)	P-value
Age, years old	64.4±11.9	64.4±11.7	0.963
Female gender, n (%)	62 (19.6)	40 (16.1)	0.322
Hypertension, n (%)	187 (59.0)	135 (54.2)	0.267
Diabetes mellitus, n (%)	156 (49.2)	107 (43.0)	0.149
Hyperlipidemia, n (%)	149 (47.0)	104 (41.8)	0.233
Smoking, n (%)	129 (40.7)	108 (43.4)	0.548
Previous history of MI, n (%)	254 (80.1)	193 (77.5)	0.468
eGFR, ml/min/1.73m ²	67.4±62.2	71.5±29.6	0.358
LVEF, %	35.4±7.6	35.1±7.5	0.666
LVEDV, ml	166.4±50.5	167.6±44.7	0.766
Calcified lesion stentin, n (%)	81 (25.6)	67 (26.9)	0.773
Drug-eluting stenting, n (%)	166 (52.4)	138 (55.4)	0.497
Survival to discharge number, n	307	238	
ACEi or ARB, n (%)	248 (80.8)	191 (80.3)	0.913
Beta blocker, n (%)	279 (90.9)	215 (90.3)	0.883
MRA, n (%)	62 (20.2)	46 (19.3)	0.829

