



Figure S1 The percentage of each type of β -blockers used by the patients of prior β -blocker therapy groups in four groups. (A) In the subgroup of patients below 75 years old, 82.5% male patients used metoprolol *vs.* 17.5% used bisoprolol before elective PCI, and 82.3% male patients used metoprolol *vs.* 17.7% used bisoprolol, with almost the same percentage; (B) In the subgroup of patients over 75 years old, 83.1% male patients used metoprolol *vs.* 16.9% used bisoprolol before elective PCI, and 80.3% male patients used metoprolol *vs.* 19.7% used bisoprolol, with no significant difference.

Table S1 Baseline characteristics of all patients grouped by the age of 75 years old and gender

	<75 years		≥75 years	
	Male (n=2,332)	Female (n=861)	Male (n=579)	Female (n=255)
Age (years)	61.12±8.77	64.13±6.77	79.39±3.28	79.45±3.26
SBP (mmHg)	129.01±18.3	136.41±18.51	135.84±20.2	141.61±21.68
DBP (mmHg)	73.94±11.98	75.1±11.87	69.86±12.38	72.13±12.3
Hypertension (%)	1497 (64.2%)	604 (70.2%)	428 (73.9%)	217 (85.1%)
Diabetes mellitus (%)	581 (24.9%)	259 (30.1%)	144 (24.9%)	76 (29.8%)
Heart rate (bpm)	72.9±11.52	75.06±12.01	71.05±11.7	75.5±12.49
Prior β -blockers (%)	1208 (51.8%)	452 (52.5%)	267 (46.1%)	132 (51.8%)
Previous MI (%)	215 (9.2%)	27 (3.1%)	56 (9.7%)	19 (7.5%)
Previous PCI (%)	762 (32.7%)	214 (24.9%)	217 (37.5%)	95 (37.3%)
Previous CABG (%)	22 (0.9%)	2 (0.2%)	5 (0.9%)	4 (1.6%)
Stable angina (%)	1080 (46.3%)	416 (48.3%)	267 (46.1%)	127 (49.8%)
ACS (%)	976 (41.9%)	366 (42.5%)	220 (38.0%)	101 (39.6%)
Asymptomatic myocardial ischemia (%)	236 (10.1%)	68 (7.9%)	80 (13.8%)	20 (7.8%)
Cerebrovascular disease (%)	169 (7.2%)	67 (7.8%)	76 (13.1%)	28 (11%)
Family history of CHD (%)	238 (10.2%)	81 (9.4%)	22 (3.8%)	13 (5.1%)
BMI (kg/m ²)	25.14±3.11	24.52±3.33	23.8±3	23.98±3.59
Current Smoking (%)	783 (33.6%)	10 (1.2%)	107 (18.5%)	6 (2.4%)

Table S1 (continued)

Table S1 (continued)

	<75 years		≥75 years	
	Male (n=2,332)	Female (n=861)	Male (n=579)	Female (n=255)
Laboratory data				
Platelet (10 ⁹ /L)	176.58±53.07	185.61±54.33	153.91±48.32	180.15±53.34
LDL-C (mg/dL)	2.06±0.88	2.26±0.94	1.91±0.79	2.12±0.91
HDL-C (mg/dL)	0.97±0.26	1.11±0.29	0.98±0.26	1.12±0.32
Total cholesterol (mg/dL)	3.9±1.12	4.36±1.27	3.68±0.97	4.18±1.15
Triglyceride (mg/L)	1.69±1.18	1.78±1.22	1.34±0.76	1.61±0.92
hs-CRP (mg/dL)	3.75±9.07	3.04±6.2	5.15±11.09	5.52±14.36
Serum creatinine (mg/L)	81.82±24.08	65.48±31.88	92.66±36.65	73.18±19.78
eGFR (mL/(min·1.73 m ²))	114.98±27.75	112.24±31.4	96.68±26.3	93.59±26.89
Medication				
Aspirin	2281 (97.8%)	836 (97.1%)	558 (96.4%)	242 (94.9%)
Clopidogrel	2193 (94.0%)	809 (94.0%)	547 (94.5%)	241 (94.5%)
Ticagrelor	146 (6.3%)	53 (6.2%)	25 (4.3%)	13 (5.1%)
Warfarin	9 (0.4%)	3 (0.3%)	5 (0.9%)	5 (2.0%)
Statins	2292 (98.3%)	841 (97.7%)	557 (96.2%)	249 (97.6%)
Fibrates	18 (0.8%)	6 (0.7%)	1 (0.2%)	0 (0%)
Ezetimibe	208 (8.9%)	79 (9.2%)	38 (6.6%)	14 (5.5%)
ACEI	573 (24.6%)	202 (23.5%)	121 (20.9%)	54 (21.2%)
ARB	691 (29.6%)	292 (33.9%)	221 (38.2%)	103 (40.4%)
CCB	632 (27.1%)	306 (35.5%)	209 (36.1%)	115 (45.1%)

Data are presented as mean±SD or n (%). The P values for continuous data were obtained from the analysis of the unpaired *t*-test, the P values for categorical data were obtained from the chi-square test. SBP, systolic blood pressure; DBP, diastolic blood pressure; MI, myocardial infarction; PCI, percutaneous coronary intervention; CABG, coronary artery bypass grafting; ACS, acute coronary syndrome; CHD, coronary heart disease; BMI, body mass index; LDL-C, low-density lipoprotein-cholesterol; HDL-C, high-density lipoprotein-cholesterol; hs-CRP, high-sensitivity C reactive protein; eGFR, estimated glomerular filtration rate; ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin II receptor blockage; CCB, calcium channel blocker.

Table S2 Angiographic & procedural characteristics of all patients grouped by the age of 75 years old and gender

	<75 years		≥75 years	
	Male (n=2,332)	Female (n=861)	Male (n=579)	Female (n=255)
Lesion location				
Left main	195 (8.4%)	60 (7%)	57 (9.8%)	21 (8.2%)
Left anterior descending	1273 (54.6%)	498 (57.8%)	294 (50.8%)	139 (54.5%)
Left circumflex	555 (23.8%)	191 (22.2%)	134 (23.1%)	53 (20.8%)
Right coronary artery	682 (29.2%)	232 (26.9%)	177 (30.6%)	74 (29%)
Multivessel intervention	1.19±0.47	1.16±0.44	1.17±0.48	1.16±0.45
2 vessels	309 (13.3%)	100 (11.6%)	63 (10.9%)	30 (11.8%)
3 vessels	63 (2.7%)	20 (2.3%)	20 (3.5%)	6 (2.4%)
ACC/AHA type B/C lesion	1223 (52.4%)	439 (51%)	316 (54.6)	127 (49.8%)
Lesion length≥20mm	1408 (60.4%)	499 (58%)	349 (60.3%)	145 (56.9%)
Moderate or severe calcification	407 (17.5%)	142 (16.5%)	127 (21.9%)	50 (19.6%)
Bifurcation lesion	268 (11.5%)	76 (8.8%)	65 (11.2%)	30 (11.8%)
Eccentric lesion	1337 (57.3%)	511 (59.3%)	354 (61.1%)	142 (55.7%)
CTO lesion	192 (8.2%)	41 (4.8%)	45 (7.8%)	15 (5.9%)
Angulated lesions	127 (5.4%)	40 (4.6%)	38 (6.6%)	9 (3.5%)
Thrombus at baseline	28 (2.4%)	7 (0.8%)	3 (0.5%)	1 (0.4%)
Pre-procedural TIMI flow < 3	692 (29.7%)	226 (26.2%)	182 (31.4%)	72 (28.2%)
Post-procedural TIMI flow < 3	28 (1.2%)	2 (0.2%)	9 (1.6%)	3 (1.2%)
Lesion diameter ≥ 2.5mm	1842 (79.0%)	671 (77.9%)	463 (80.0%)	198 (77.6%)
Mean stents (no.)	1.63±0.78	1.6±0.73	1.59±0.77	1.65±0.73
2 stents	730 (31.3%)	292 (33.9%)	151 (26.1%)	91 (35.7%)
3 stents	279 (12.0%)	87 (10.1%)	77 (13.3%)	30 (11.8%)
4 stents	33 (1.4%)	11 (1.3%)	7 (1.2%)	2 (0.8%)
Implanted stents ≥2	1048 (44.9%)	390 (45.3%)	235 (40.6%)	123 (48.2%)
Mean stent length (mm)	25.39±6.99	24.63±6.8	24.79±6.8	24.66±6.55
Total length of implanted stents (mm)	42.38±24.56	40.54±23.18	40.28±23.9	41.34±22.17
FFR IVUS OCT	335 (14.4%)	128 (14.9%)	79 (13.6%)	36 (14.1%)
Predilatation (%)	1826 (78.3%)	687 (79.8%)	460 (79.4%)	207 (81.2%)
Postdilatation (%)	2024 (86.8%)	768 (89.2%)	504 (87.0%)	223 (87.5%)
Direct stent (%)	374 (16.0%)	139 (16.1%)	86 (14.9%)	36 (14.1%)
Rotational atherectomy (%)	15 (0.6%)	5 (0.6%)	10 (1.7%)	8 (3.1%)

ACC/AHA, American College of Cardiology/American Heart Association; CTO, chronic total occlusions; TIMI, thrombolysis in myocardial infarction; FFR, fractional flow reserve; IVUS, intravenous ultrasound; OCT, optical coherence tomography.

Table S3 Logistic regression analysis for predictors of PMI in the patients <75 years old using metoprolol

	Univariable Analysis				Multivariable Analysis			
	Unstandardized Coefficient		95% CI	P value	Unstandardized Coefficient		95% CI	P value
	β	HR			β	HR		
Male								
Prior β -blocker	0.415	1.514	1.184-1.937	0.001	0.389	1.475	1.116-1.951	0.006
Previous MI	0.270	1.310	0.871-1.971	0.195	0.373	1.452	0.888-2.374	0.138
Previous PCI	0.074	1.076	0.828-1.398	0.582	0.111	1.117	0.808-1.545	0.504
Hypertension	0.191	1.211	0.933-1.572	0.151	0.059	1.061	0.788-1.43	0.696
Diabetes mellitus	0.047	1.048	0.793-1.386	0.742	0.017	1.017	0.743-1.393	0.914
Platelet	0.000	1.000	0.997-1.002	0.814	0.000	1.000	0.997-1.002	0.718
Heart rate	-0.002	0.998	0.988-1.009	0.781	-0.005	0.995	0.983-1.007	0.440
BMI	0.014	1.014	0.975-1.055	0.488	0.008	1.009	0.964-1.055	0.712
SAP or ACS	0.161	1.175	0.917-1.505	0.202	-0.023	0.977	0.737-1.295	0.872
Current smoking	-0.066	0.936	0.721-1.216	0.622	-0.085	0.918	0.685-1.231	0.568
Total length of implanted stents	0.027	1.027	1.022-1.032	<0.001	0.026	1.027	1.021-1.032	<0.001
ACC/AHA type B/C lesion	0.574	1.775	1.368-2.303	<0.001	0.267	1.306	0.975-1.75	0.073
Pre-dilatation	0.396	1.486	1.054-2.096	0.024	0.373	1.453	0.989-2.134	0.057
Post-dilatation	0.351	1.420	0.912-2.211	0.120	0.156	1.169	0.682-2.005	0.570
Female								
Prior β -blocker	-0.227	0.797	0.537-1.181	0.258	-0.206	0.814	0.521-1.271	0.365
Previous MI	0.096	1.101	0.369-3.28	0.863	0.501	1.650	0.476-5.718	0.430
Previous PCI	-0.001	0.999	0.63-1.583	0.997	0.053	1.054	0.604-1.84	0.853
Hypertension	0.378	1.460	0.926-2.3	0.103	0.050	1.052	0.619-1.786	0.852
Diabetes mellitus	0.252	1.287	0.853-1.942	0.230	0.015	1.015	0.628-1.639	0.952
Platelet	-0.001	0.999	0.995-1.002	0.469	-0.004	0.996	0.992-1	0.057
Heart rate	0.023	1.023	1.007-1.039	0.005	0.027	1.027	1.008-1.046	0.004
BMI	0.050	1.051	0.992-1.114	0.093	0.047	1.048	0.981-1.12	0.163
SAP or ACS	0.336	1.399	0.946-2.07	0.093	0.190	1.209	0.774-1.887	0.404
Current Smoking	-0.378	0.685	0.085-5.531	0.723	0.053	1.054	0.119-9.307	0.962
Total length of implanted stents	0.023	1.024	1.015-1.032	<0.001	0.022	1.022	1.013-1.032	<0.001
ACC/AHA type B/C lesion	0.585	1.794	1.186-2.715	0.006	0.378	1.459	0.91-2.338	0.117
Pre-dilatation	0.303	1.353	0.78-2.348	0.282	0.430	1.538	0.787-3.005	0.208
Post-dilatation	0.637	1.892	0.798-4.482	0.148	0.348	1.417	0.465-4.316	0.540

HR: hazard ratio; MI: myocardial infarction; PCI: percutaneous coronary intervention; BMI: body mass index; SAP: stable angina pectoris; ACS: acute coronary syndrome; ACC/AHA: American College of Cardiology/American Heart Association.

Table S4 Logistic regression analysis for predictors of PMI in the patients ≥ 75 years old using metoprolol

	Univariable Analysis				Multivariable Analysis			
	Unstandardized Coefficient		95% CI	P value	Unstandardized Coefficient		95% CI	P value
	β	HR			β	HR		
Male								
Prior β -blocker	-0.191	0.826	0.531-1.284	0.396	-0.140	0.869	0.525-1.439	0.586
Previous MI	0.303	1.353	0.68-2.693	0.389	0.681	1.977	0.882-4.429	0.098
Previous PCI	-0.165	0.848	0.541-1.329	0.472	-0.096	0.909	0.531-1.554	0.727
Hypertension	0.009	1.009	0.615-1.655	0.972	0.138	1.148	0.635-2.075	0.648
Diabetes mellitus	-0.090	0.914	0.551-1.517	0.729	-0.158	0.854	0.476-1.534	0.598
Platelet	0.000	1.000	0.996-1.004	0.982	-0.001	0.999	0.994-1.004	0.664
Heart rate	0.012	1.012	0.994-1.03	0.181	0.014	1.015	0.994-1.036	0.172
BMI	-0.007	0.993	0.923-1.069	0.850	0.004	1.004	0.921-1.094	0.931
SAP or ACS	0.239	1.270	0.821-1.965	0.282	0.025	1.025	0.616-1.706	0.924
Current smoking	0.029	1.029	0.597-1.775	0.917	-0.087	0.917	0.494-1.703	0.784
Total length of implanted stents	0.022	1.022	1.013-1.031	<0.001	0.023	1.024	1.014-1.034	<0.001
ACC/AHA type B/C lesion	0.452	1.572	0.999-2.474	0.051	0.001	1.001	0.597-1.678	0.997
Pre-dilatation	-0.398	0.672	0.401-1.125	0.130	-0.307	0.736	0.398-1.359	0.327
Post-dilatation	0.583	1.791	0.786-4.077	0.165	1.005	2.733	0.799-9.349	0.109
Female								
Prior β -blocker	-0.631	0.532	0.289-0.98	0.043	-0.502	0.605	0.297-1.232	0.166
Previous MI	0.198	1.219	0.41-3.62	0.722	-0.131	0.877	0.208-3.709	0.859
Previous PCI	-0.269	0.764	0.407-1.436	0.404	0.145	1.156	0.531-2.516	0.715
Hypertension	0.576	1.779	0.646-4.903	0.265	0.905	2.472	0.643-9.500	0.188
Diabetes mellitus	0.189	1.208	0.635-2.297	0.565	0.333	1.395	0.652-2.984	0.391
Platelet	0.001	1.001	0.995-1.006	0.789	0.002	1.002	0.995-1.009	0.570
Heart rate	0.012	1.012	0.989-1.036	0.295	0.017	1.017	0.990-1.044	0.226
BMI	0.002	1.002	0.917-1.096	0.958	0.009	1.009	0.911-1.118	0.865
SAP or ACS	0.512	1.669	0.907-3.071	0.100	0.442	1.556	0.753-3.218	0.233
Current smoking	0.663	1.940	0.316-11.914	0.474	0.558	1.747	0.151-20.279	0.656
Total length of implanted stents	0.022	1.022	1.008-1.036	0.001	0.024	1.024	1.008-1.040	0.003
ACC/AHA type B/C lesion	0.271	1.311	0.719-2.39	0.377	0.014	1.014	0.475-2.162	0.972
Pre-dilatation	0.516	1.676	0.693-4.052	0.252	0.515	1.674	0.566-4.950	0.352
Post-dilatation	0.638	1.892	0.528-6.785	0.328	0.406	1.501	0.165-13.656	0.718

HR: hazard ratio; MI: myocardial infarction; PCI: percutaneous coronary intervention; BMI: body mass index; SAP: stable angina pectoris; ACS: acute coronary syndrome; ACC/AHA: American College of Cardiology/American Heart Association.