SUPPLEMENTAL MATERIAL

Table S1. Baseline Characteristics in the OMT, Failed CTO-PCI, and Successful CTO-PCI Groups.

	OMT (n = 664)	Failed CTO-PCI (n = 184)	Successful CTO-PCI (n = 699)	p Value
Age, years	65.9 ± 11.3	63.1 ± 9.6	61.1 ± 11.1	<0.001
Men	509 (76.7)	150 (81.5)	563 (80.5)	0.14
Diabetes mellitus	318 (47.9)	81 (44.0)	303 (43.3)	0.22
Hypertension	439 (66.1)	124 (67.4)	423 (60.5)	0.05
Dyslipidemia	158 (23.8)	51 (27.7)	238 (34.0)	<0.001
Current smoker	182 (27.4)	57 (31.0)	228 (32.6)	0.11
Renal failure	61 (9.2)	16 (8.7)	52 (7.4)	0.50
Family History of CAD	73 (11.0)	17 (9.2)	118 (16.9)	0.001
Previous MI	211 (31.8)	44 (23.9)	136 (19.5)	<0.001
Previous PCI	208 (31.3)	50 (27.2)	128 (18.3)	<0.001
Previous stroke	67 (10.1)	17 (9.2)	49 (7.0)	0.12
Peripheral artery disease	40 (6.0)	5 (2.7)	18 (2.6)	0.003
Left ventricular ejection fraction, %[*]	53.4 ± 13.7	58.1 ± 13.1	57.9 ± 11.7	<0.001

Acute coronary syndrome	98 (14.8)	40 (21.7)	175 (25.0)	<0.001
Multivessel disease	517 (77.9)	139 (75.5)	456 (65.2)	<0.001
CTO vessel				
Left anterior descending	168 (25.3)	60 (32.6)	313 (44.8)	<0.001
Left circumflex	228 (34.3)	59 (32.1)	202 (28.9)	0.10
Right coronary	370 (55.7)	91 (49.5)	292 (41.8)	<0.001
Multi-CTO	94 (14.2)	24 (13.0)	106 (15.2)	0.73
Blunt stump	335 (50.5)	90 (48.9)	295 (42.2)	0.008
Bridging collateral	236 (35.5)	63 (34.2)	202 (28.9)	0.03
Calcification	116 (17.5)	36 (19.6)	104 (14.9)	0.22
Collateral flow				0.72
0	21 (3.2)	4 (2.2)	15 (2.1)	
1	138 (20.8)	40 (21.7)	128 (18.3)	
2	269 (40.5)	74 (40.2)	290 (41.5)	
3	236 (35.5)	66 (35.9)	266 (38.1)	
Proximal or mid, CTO location	424 (63.9)	134 (72.8)	509 (72.8)	0.001

SYNTAX score	19.8 ± 9.7	19.8 ± 8.2	19.6 ± 8.9	0.87
Medication				
Aspirin	560 (84.3)	173 (94.0)	645 (92.3)	<0.001
Clopidogrel	405 (61.0)	134 (72.8)	670 (95.9)	<0.001
Statin	446 (67.2)	126 (68.5)	519 (74.2)	0.01
β-blocker	368 (55.4)	113 (61.4)	392 (56.1)	0.33
Renin-angiotensin system blockade	413 (62.2)	103 (56.0)	417 (59.7)	0.28

Data are presented as mean ± average or number of patients (%).

CAD indicates coronary artery disease; CTO, chronic total occlusion; MI, myocardial infarction; OMT, optimal medical therapy; PCI, percutaneous coronary intervention; and SYNTAX, Synergy Between Percutaneous Coronary Intervention With Taxus and Cardiac Surgery.

*Left ventricular ejection fraction was available in in 593 patients in the OMT group, 159 patients in the failed CTO-PCI group, and 614 patients in the successful CTO-PCI group.

Table S2. Clinical Outcomes at 10-year according to the Procedural Success or Failure.

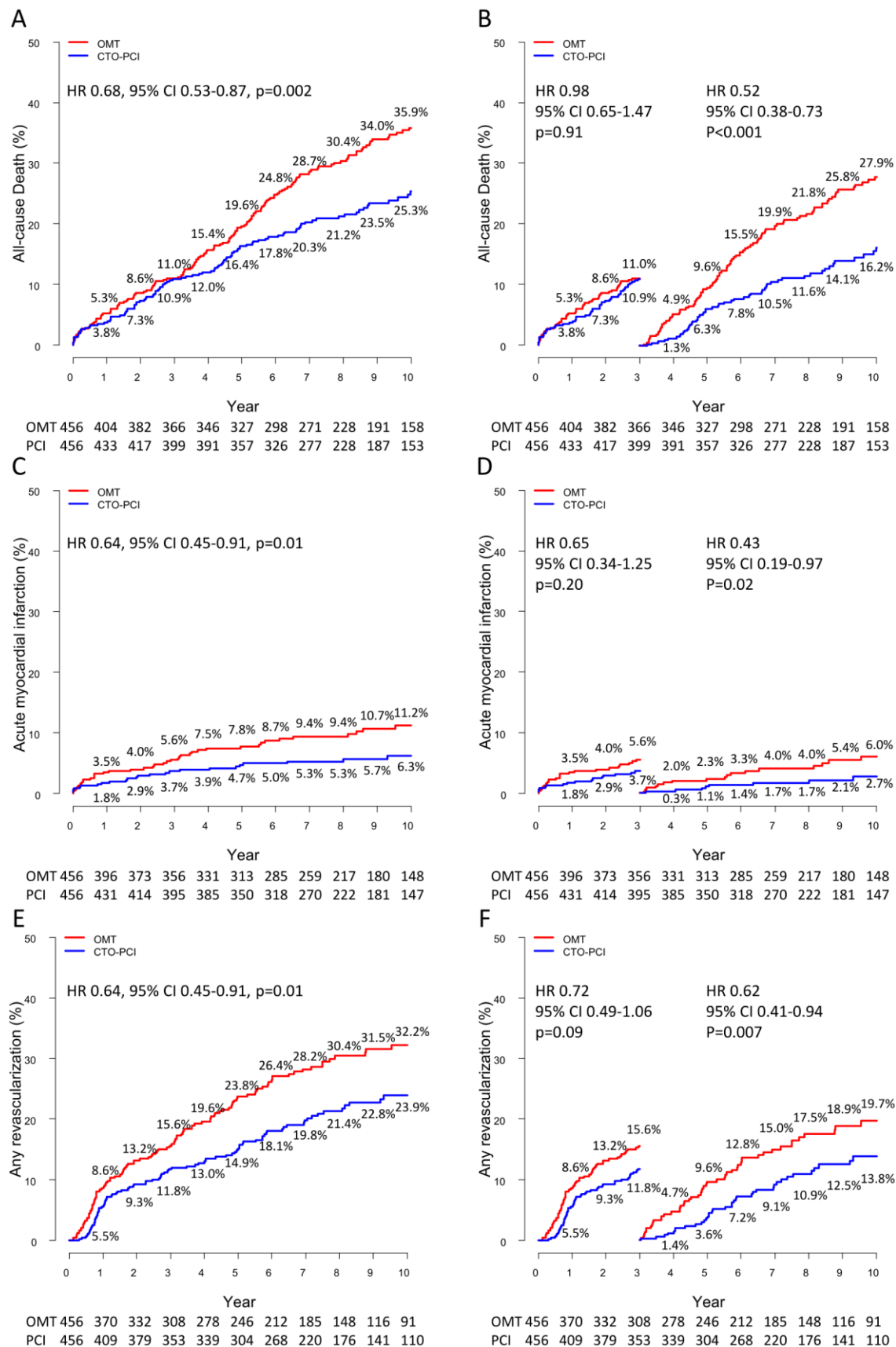|	Successful CTO-PCI (n = 699)	Failed CTO-PCI (n = 184)	Univariable analysis		Multivariable-adjusted	
			Hazard ratio (95% CI)	*p* value	Hazard ratio (95% CI)	*p* value
Cardiac death	46 (8.5)	27 (18.1)	0.39 (0.24-0.63)	<0.001	0.40 (0.24-0.64)	<0.001
All-cause death	111 (18.2)	44 (27.9)	0.58 (0.41-0.83)	0.003	0.59 (0.41-0.84)	0.004
Acute myocardial infarction	38 (6.2)	7 (4.4)	1.32 (0.59-2.95)	0.51	1.49 (0.64-3.45)	0.35
PCI at any lesions	137 (23.9)	26 (18.2)	1.26 (0.83-1.92)	0.28	1.38 (0.91-2.11)	0.13
CABG	15 (2.9)	7 (4.6)	0.49 (0.20-1.19)	0.11	0.48 (0.20-1.19)	0.11
Any revascularization	148 (26.2)	30 (20.7)	1.17 (0.79-1.73)	0.45	1.24 (0.84-1.85)	0.28

Percentages are presented as Kaplan-Meier estimates. Hazard ratios are for successful CTO-PCI group relative to failed CTO-PCI group. The Multivariable models for each endpoint were determined using backward stepwise elimination procedures where the least significant variable was removed one at a time from the full model including variables from Table S1. CABG indicates coronary artery bypass graft; CI, confidence interval; CTO, chronic total occlusion; OMT, optimal medical therapy; and PCI, percutaneous coronary intervention.

Table S3. Clinical Outcomes at 10-year in the OMT and Failed CTO-PCI Groups.

	OMT (n = 664)	Failed CTO-PCI (n = 184)	Univariable analysis Hazard ratio (95% CI)	p value	Multivariable-adjusted Hazard ratio (95% CI)	p value
Cardiac death	106 (22.3)	27 (18.1)	0.86 (0.56-1.31)	0.49	1.12 (0.73-1.73)	0.60
All-cause death	226 (40.4)	44 (27.9)	0.66 (0.48-0.91)	0.01	0.85 (0.61-1.18)	0.33
Acute myocardial infarction	57 (12.0)	7 (4.4)	0.41 (0.19-0.90)	0.03	0.52 (0.24-1.16)	0.11
PCI at any lesions	108 (23.2)	26 (18.2)	0.78 (0.51-1.20)	0.26	0.83 (0.54-1.29)	0.41
CABG	52 (11.6)	7 (4.6)	0.44 (0.20-0.97)	0.04	0.41 (0.18-0.90)	0.03
Any revascularization	152 (32.7)	30 (20.7)	0.62 (0.42-0.91)	0.02	0.62 (0.42-0.93)	0.02

Percentages are presented as Kaplan-Meier estimates. Hazard ratios are for failed CTO-PCI group relative to OMT group. The Multivariable models for each endpoint were determined using backward stepwise elimination procedures where the least significant variable was removed one at a time from the full model including variables from Table S1. CABG indicates coronary artery bypass graft; CI, confidence interval; CTO, chronic total occlusion; OMT, optimal medical therapy; and PCI, percutaneous coronary intervention.

Figure S1. Kaplan-Meier Event Curves at 10 Years and 3-Year Landmark Analysis for Clinical Outcomes.

10-year cumulative event curves for (A) all-cause death, (C) acute myocardial infarction, and (E) any revascularization. Time-to-event curves with landmark analysis from 0 to 3 and 3 to 10 years for (B) all-cause death, (D) acute myocardial infarction, and (F) any revascularization. CI indicates confidence interval; CTO, chronic total occlusion; HR, hazard ratio; OMT, optimal medical therapy; and PCI, percutaneous coronary intervention.