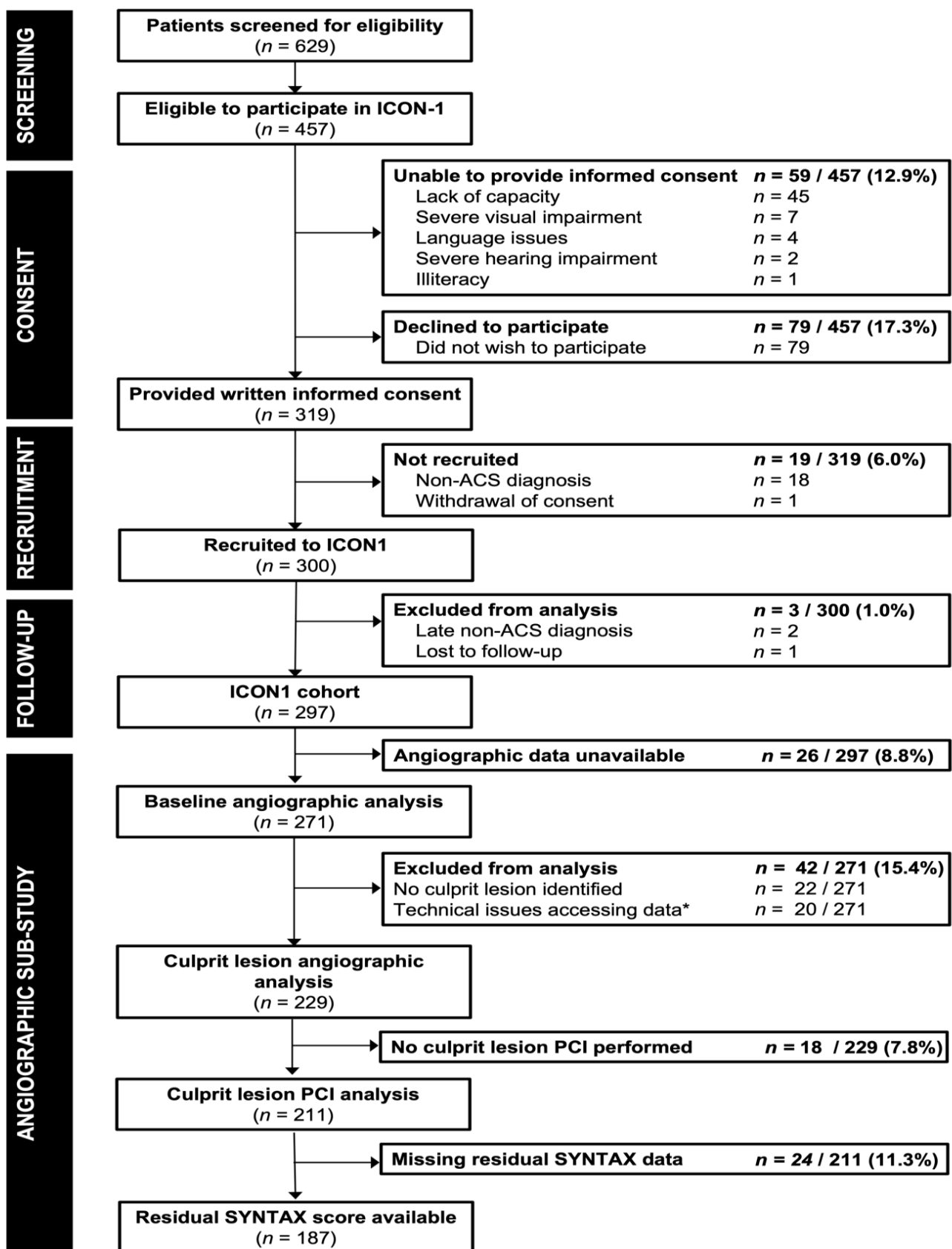


Angiographic and Procedural Characteristics in Frail Older Patients with Non-ST Elevation Acute Coronary Syndrome

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Supplementary Material

Supplementary Figure 1. Flow diagram of ICON1 screening, recruitment, and angiographic sub-study analysis. ACS: acute coronary syndrome. * Technical issues refer to insurmountable issues with data encoded on compact discs containing angiographic data, including but not limited to missing frames of importance, corrupted discs, etc.



Supplementary Table 1. Baseline medication history stratified by frailty phenotype

Medication history, *	Total (n=271)	Robust (n=53)	Pre-Frail (n=145)	Frail (n=73)	<i>P</i> value
Aspirin	269 (99.3)	53 (100)	143 (98.6)	73 (100)	0.42
Clopidogrel	115 (57.2)	30 (56.6)	81 (55.9)	44 (60.3)	0.82
Prasugrel	2 (0.7)	0	1 (0.7)	1 (1.4)	0.67
Ticagrelor	107 (39.5)	21 (39.6)	61 (42.1)	25 (34.2)	0.54
Statin	261 (96.3)	51 (96.2)	139 (95.9)	71 (97.3)	0.87
ACE inhibitor or ARB	238 (87.8)	49 (92.5)	129 (89.0)	60 (82.2)	0.18
Beta blocker	220 (81.2)	40 (75.5)	125 (86.2)	55 (75.3)	0.08
Calcium channel blocker	86 (31.7)	20 (37.7)	46 (31.7)	20 (27.4)	0.47
Warfarin	16 (5.9)	2 (3.8)	8 (5.5)	6 (8.2)	0.56
Direct oral anticoagulant	8 (3.0)	0	4 (2.8)	4 (5.5)	0.20

Statistically significant ($P \leq 0.05$) results are indicated in **bold**. * Indicates medications being taken at time of referral to tertiary referral centre.

ACE = angiotensin converting enzyme; ARB = angiotensin receptor blocker.

Supplementary Table 2. Post-PCI culprit lesion quantitative angiographic analysis stratified by frailty phenotype

	Total (n=211)	Robust (n=42)	Pre-Frail (n=110)	Frail (n=59)	<i>P value</i>
Culprit lesion diameter stenosis, mean % (\pm SD)	13.7 (8.8)	22.8 (5.9)	13.4 (7.8)	15.4 (11.7)	0.12
Culprit lesion vessel diameter, mean mm (\pm SD)	3.13 (0.85)	3.1 (0.51)	3.06 (0.61)	3.3 (1.29)	0.28
Culprit lesion area, mean mm ² (\pm SD)	24.5 (12.8)	21.5 (10.1)	24.5 (11.5)	26.8 (16.4)	0.15
Culprit lesion minimum lumen diameter, mean mm (\pm SD)	2.7 (0.6)	2.81 (0.5)	2.69 (0.61)	2.7 (0.63)	0.54

Statistically significant ($P \leq 0.05$) results are indicated in **bold**.

Supplementary Table 3. Peri-procedural complications stratified by frailty

phenotype

	Total (n=211)	Robust (n=42)	Pre-Frail (n=110)	Frail (n=59)	<i>P value</i>
Peri-procedural complication,* n (%)	12 (5.7)	2 (4.8)	8 (7.3)	2 (3.4)	0.56
No re-flow	4 (1.9)	0 (0)	4 (3.6)	0 (0)	0.42
Dissection	1 (0.5)	1 (2.4)	0 (0)	0 (0)	0.53
Distal embolization	1 (0.5)	0 (0)	1 (0.9)	0 (0)	0.90
Abrupt closure	2 (1.0)	0 (0)	1 (0.9)	1 (1.7)	0.93
Thrombus	3 (1.4)	2 (4.8)	1 (0.9)	0 (0)	0.34
Perforation	1 (0.5)	0 (0)	0 (0)	1 (1.7)	0.61
Loss of side branch	3 (1.4)	0 (0)	2 (1.8)	1 (1.7)	0.93

Statistically significant ($P \leq 0.05$) results are indicated in **bold**. * Records number of patients which had a peri-procedural complication, not total number of complications.

One robust patient had both a dissection and thrombus, and one frail patient had both a perforation and abrupt closure.

Supplementary Table 4. Logistic regression models for the association between frailty and angiographic characteristics, with full adjustment.

Variable	Frail vs. Robust [#]					
	Unadjusted		Adjusted for age and sex		Adjusted for differences in baseline characteristics* [#]	
	OR (95% CI)	<i>P</i> value	OR (95% CI)	<i>P</i> value	OR (95% CI)	<i>P</i> value
Femoral access	3.98 (1.28–12.5)	0.017	4.42 (0.83–34.4)	0.082	3.96 (0.56– 28.0)	0.167
Radial access	0.25 (0.08–0.78)	0.017	0.23 (0.04–1.20)	0.082	0.25 (0.04–1.77)	0.167
Severe culprit lesion calcification	5.40 (1.75–16.8)	0.03	46.1 (4.39–485)	0.01	40.1 (3.2–498)	0.04
Eccentric lesion	1.73 (0.58–5.16)	0.32	3.22 (0.56–18.5)	0.124	2.57 (0.37–17.6)	0.355
Bifurcation lesion	1.61 (0.39–6.63)	0.51	1.52 (0.25–9.14)	0.65	1.50 (0.22–10.1)	0.677
Baseline SYNTAX score						
Low (0-22)	Reference	-	Reference	-	Reference	-
Medium (23-32)	5.91 (1.27–27.5)	0.024	2.41 (0.26–22.0)	0.26	1.48 (0.97–27.0)	0.78
High (≥33)	4.54 (0.51–40.3)	0.09	4.14 (0.32–54.0)	0.27	2.03 (0.03–145)	0.74
Residual SYNTAX score						
Incomplete unacceptable (>8)	Reference	-	Reference	-	Reference	-
Incomplete acceptable (1-7)	1.05 (0.30–3.70)	0.93	1.35 (0.12–15.7)	0.82	2.02 (0.14–28.5)	0.62
Complete revascularisation (0)	0.83 (0.36–1.93)	0.67	1.99 (0.41–9.57)	0.39	2.59 (0.46–14.4)	0.27

* Differences in baseline characteristics defined as age, sex, previous myocardial infarction, previous transient ischemic attack or stroke, heart failure, or anaemia.

P≤0.05 are highlighted in bold. OR = odds ratio.

A large limitation of our study is the small number of patients, particularly at the extremes of Fried Frailty (in the robust and frail groups). As a consequence, the confidence intervals for the odds ratio of certain angiographic characteristics (particularly calcification) are very wide after adjustment.

Supplementary Table 5. Variables included and dropped in the fully adjusted multivariate logistic analysis (Model 2).

Variable included	Age Sex Previous myocardial infarction Previous transient ischaemic attack or stroke Heart failure Anaemia
Variable dropped due to multicollinearity	GRACE 2.0 score New York Heart Association score Charlson co-morbidity index score Haemoglobin