

Supplementary Online Content

eFigure 1 – Consort flow diagram

eFigure 2 – Kaplan-Meier estimate of incidence of graft loss and mortality up to 5 years post-transplant, by any RIPC versus control, intention to treat analysis

eFigure 3 – Kaplan-Meier estimate of incidence of mortality or graft loss up to 5 years post-transplant, intention to treat analysis

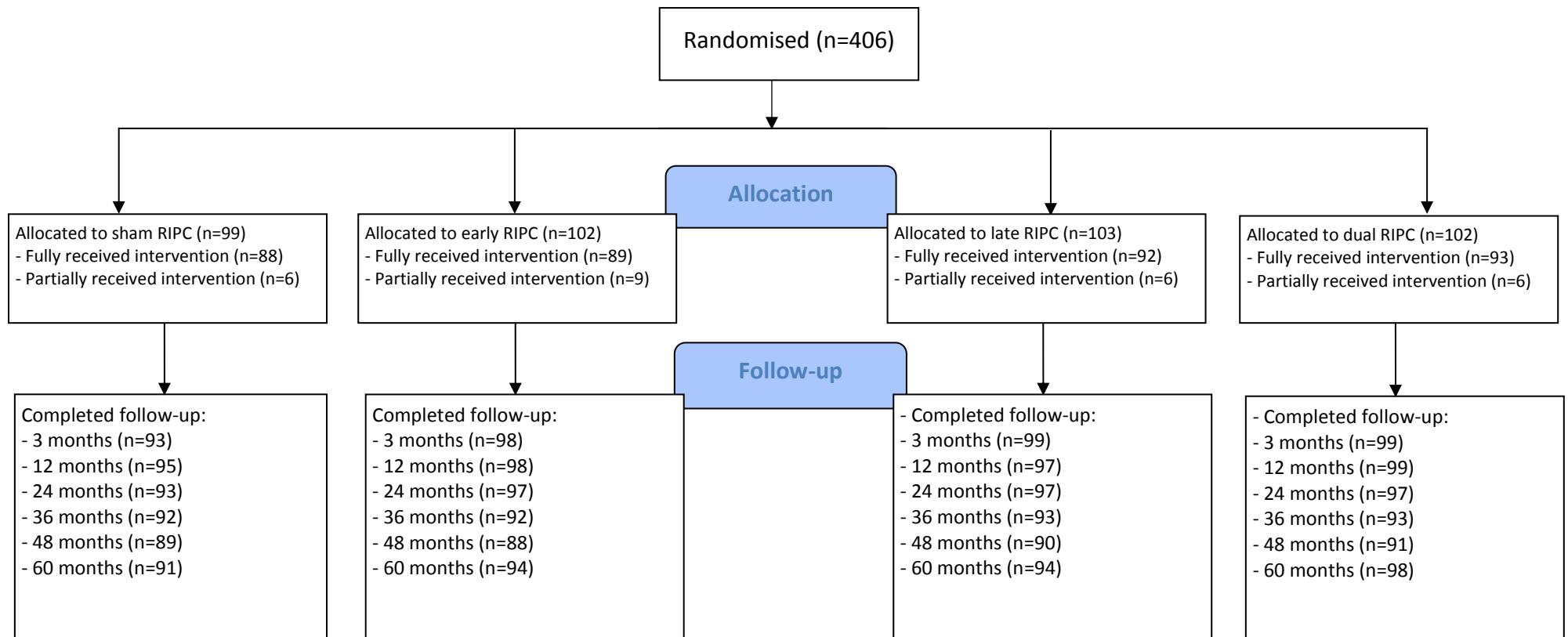
eTable 1: Effect of any RIPC on eGFR (ml/min/1.73m²), graft loss and death up to 5 years post-transplant, intention to treat analysis

eTable 2: Effect of RIPC on eGFR (ml/min/1.73m²), without imputation of zero eGFR for graft loss or death

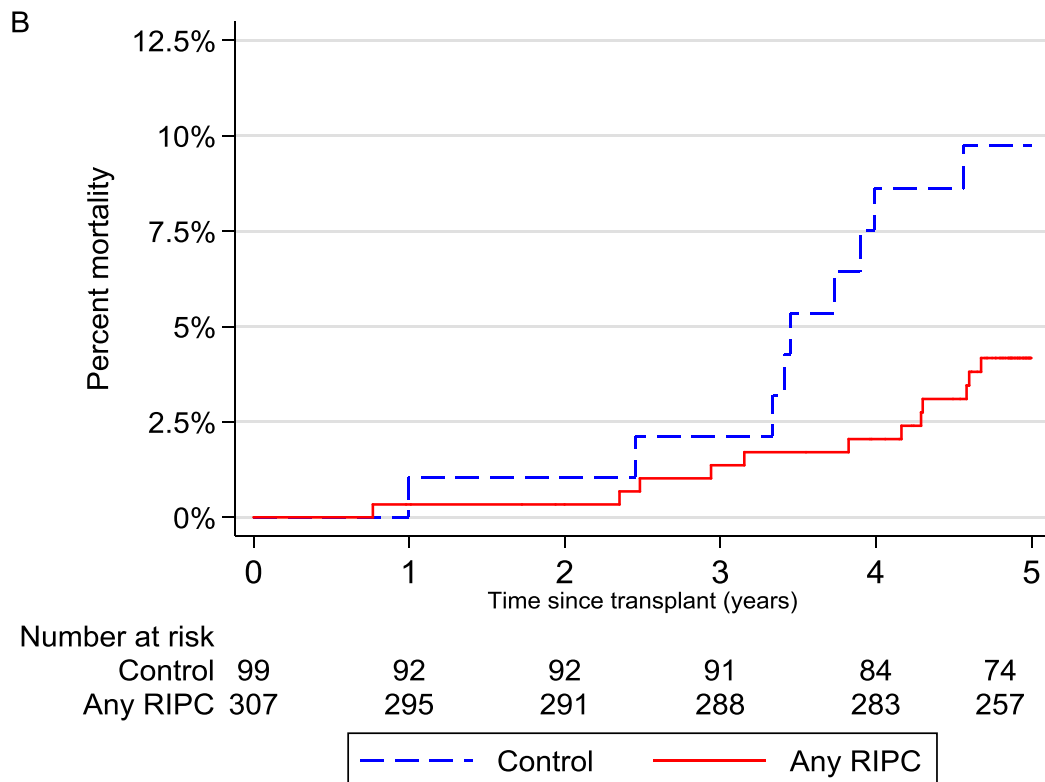
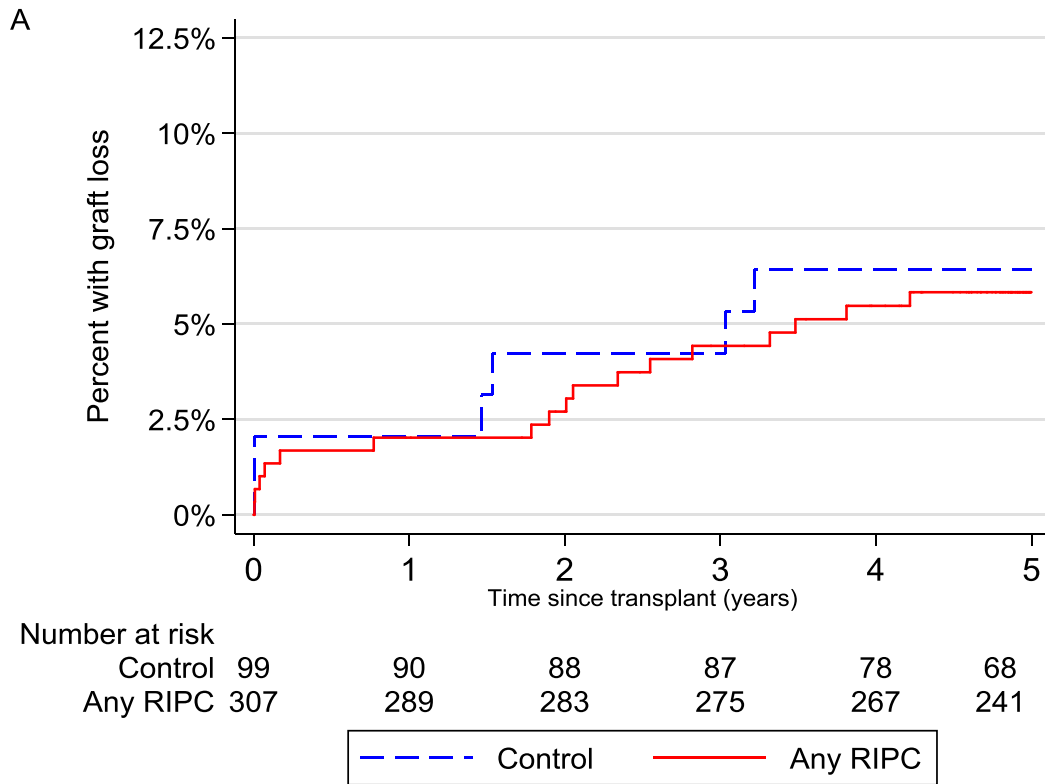
eTable 3: Effect of RIPC on eGFR (ml/min/1.73m²), up to 5 years post-transplant, per-protocol analysis

eTable 4: Effect of RIPC on graft loss and death up to 5 years post-transplant, per-protocol analysis

eTable 5: Adverse events, by randomised group

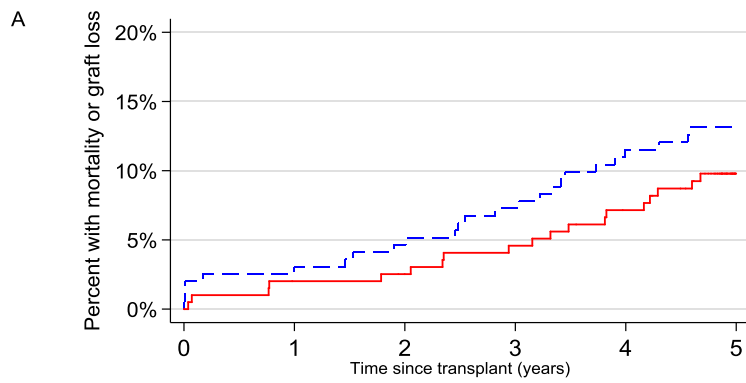


eFigure 1 – Consort flow diagram



eFigure 2 – Kaplan-Meier estimate of incidence of graft loss and mortality up to 5 years post-transplant, by any RIPC versus control, intention to treat analysis

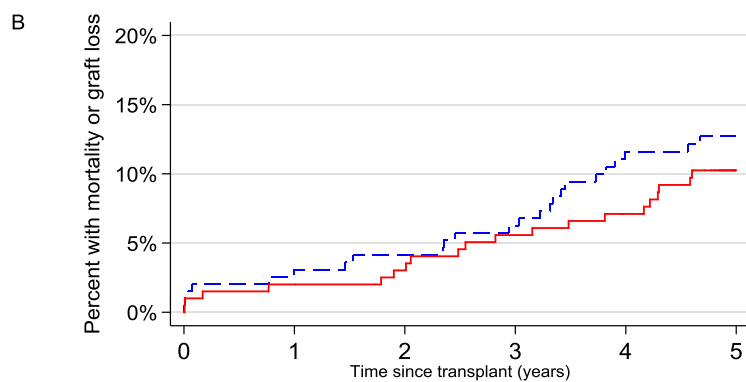
Panels show: A. graft loss, any RIPC vs control; B. mortality, any RIPC vs control;



Number at risk

Control	202	186	181	176	166	147
Early RIPC	204	193	190	186	179	162

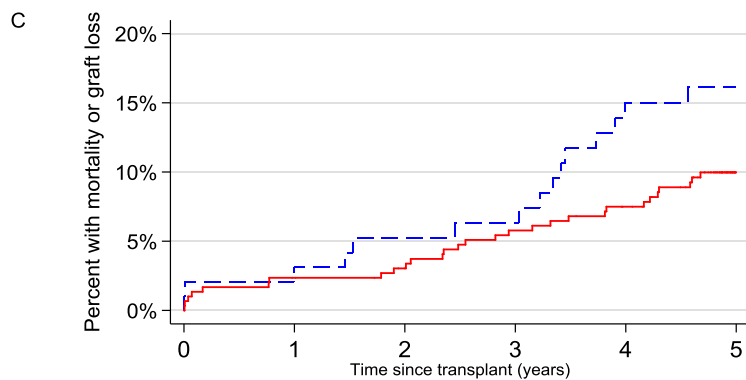
- - - Control — Early RIPC



Number at risk

Control	201	184	181	177	165	147
Late RIPC	205	195	190	185	180	162

- - - Control — Late RIPC



Number at risk

Control	99	90	88	87	78	68
Any RIPC	307	289	283	275	267	241

- - - Control — Any RIPC

eFigure 3 – Kaplan-Meier estimate of incidence of mortality or graft loss up to 5 years post-transplant, intention to treat analysis

Panels show: A. mortality or graft loss, early RIPC vs control; B. mortality or graft loss, late RIPC vs control; C. mortality or graft loss, any RIPC vs control

eTable 1: Effect of any RIPC on eGFR (ml/min/1.73m²), graft loss and death up to 5 years post-transplant, intention to treat analysis

Outcome	Control (N=99)		Any RIPC (N=307)		Difference in means (95% CI)*	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					3.94 (0.21 to 7.66)	0.038
3 months	93	54.0 (17.7)	291	56.3 (18.2)	3.13 (-0.81 to 7.08)	0.120
12 months	95	55.5 (20.3)	293	59.0 (19.9)	4.21 (-0.15 to 8.57)	0.059
24 months	92	52.5 (20.9)	290	56.6 (20.9)	4.48 (-0.09 to 9.05)	0.055
36 months	92	50.4 (20.3)	278	55.9 (22.7)	6.16 (1.30 to 11.02)	0.013
48 months	89	46.7 (24.1)	267	54.8 (25.3)	9.21 (3.65 to 14.77)	0.001
60 months	91	44.4 (25.9)	286	52.1 (24.9)	8.41 (2.76 to 14.06)	0.004
		N (%) with outcome		N (%) with outcome	Hazard ratio (95% CI)**	
Graft loss	99	6 (6.1)	307	17 (5.5)	0.88 (0.35 to 2.24)	0.796
Death	99	9 (9.1)	307	12 (3.9)	0.41 (0.17 to 0.97)	0.042
Graft loss or death	99	15 (15.2)	307	29 (9.4)	0.59 (0.32 to 1.11)	0.102

* Any RIPC (early, late or dual) vs. Control adjusted for baseline donor eGFR by CKD-EPI

**Any RIPC (early, late or dual) vs. Control

Abbreviations: N, number of observations; SD, standard deviation; CI, confidence interval

eTable 2: Effect of RIPC on eGFR (ml/min/1.73m²), without imputation of zero eGFR for graft loss or death

Outcome	Control (N=202)		Early RIPC (N=204)		Difference in means (95% CI)*	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					4.50 (1.57 to 7.43)	0.003
3 months	191	54.0 (16.9)	193	57.8 (17.9)	4.75 (1.52 to 7.99)	0.004
12 months	191	57.0 (18.5)	196	60.1 (19.8)	3.66 (0.10 to 7.22)	0.044
24 months	186	54.7 (19.1)	193	57.9 (20.1)	4.04 (0.37 to 7.72)	0.031
36 months	182	53.5 (19.6)	184	58.1 (21.1)	5.06 (1.24 to 8.87)	0.009
48 months	170	54.2 (19.9)	172	57.9 (23.4)	4.61 (0.45 to 8.78)	0.030
60 months	173	53.6 (19.5)	184	56.8 (21.7)	4.05 (0.10 to 8.01)	0.045
Outcome	Control (N=201)		Late RIPC (N=205)		Difference in means (95% CI)*	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					1.49 (-1.44 to 4.42)	0.319
3 months	189	55.5 (17.2)	195	56.4 (17.8)	1.36 (-1.87 to 4.59)	0.409
12 months	193	58.3 (20.0)	194	58.9 (18.4)	1.25 (-2.31 to 4.80)	0.492
24 months	187	55.8 (19.6)	192	56.9 (19.8)	1.97 (-1.71 to 5.64)	0.294
36 months	182	55.5 (19.8)	184	56.2 (21.2)	2.31 (-1.51 to 6.12)	0.236
48 months	165	56.0 (21.7)	177	56.1 (21.9)	2.85 (-1.32 to 7.01)	0.180
60 months	172	54.8 (21.2)	185	55.6 (20.2)	1.83 (-2.13 to 5.79)	0.365
Outcome	Control (N=99)		Any RIPC (N=307)		Difference in means (95% CI)**	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					3.74 (0.30 to 7.18)	0.033
3 months	93	54.2 (17.2)	291	56.5 (17.6)	3.12 (-0.68 to 6.91)	0.107
12 months	95	55.9 (19.4)	292	59.4 (19.1)	4.20 (0.06 to 8.34)	0.047
24 months	90	53.9 (19.2)	289	57.1 (19.8)	4.28 (-0.02 to 8.58)	0.051
36 months	90	52.1 (18.0)	276	57.1 (21.1)	5.98 (1.53 to 10.42)	0.008
48 months	81	52.5 (18.1)	261	57.1 (22.7)	6.80 (1.95 to 11.65)	0.006
60 months	82	52.2 (18.8)	275	56.1 (21.1)	4.43 (-0.22 to 9.08)	0.062

* Early RIPC vs. Control / late RIPC vs control adjusted for baseline donor eGFR by CKD-EPI and factorial design

**Any RIPC (early, late or dual) vs. Control, adjusted for baseline donor eGFR by CKD-EPI

Abbreviations: N, number of observations; SD, standard deviation; CI, confidence interval

eTable 3: Effect of RIPC on eGFR (ml/min/1.73m²), up to 5 years post-transplant, per-protocol analysis

Outcome	Control (N=180)		Early RIPC (N=182)		Difference in means (95% CI)*	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					4.76 (1.45 to 8.07)	0.005
3 months	179	53.6 (17.9)	177	57.5 (18.0)	5.08 (1.57 to 8.60)	0.005
12 months	176	56.4 (20.0)	181	59.9 (19.7)	4.38 (0.51 to 8.25)	0.026
24 months	175	53.7 (20.5)	177	57.0 (20.1)	4.04 (0.06 to 8.01)	0.047
36 months	172	51.7 (21.0)	169	56.9 (21.9)	5.69 (1.48 to 9.90)	0.008
48 months	166	50.3 (24.0)	161	54.8 (25.7)	4.96 (0.00 to 9.91)	0.050
60 months	172	48.2 (25.0)	175	51.5 (25.1)	4.33 (-0.72 to 9.37)	0.093
	Control (N=177)		Late RIPC (N=185)		Difference in means (95% CI)*	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					1.60 (-1.71 to 4.90)	0.344
3 months	174	54.9 (17.4)	182	56.1 (18.7)	1.38 (-2.12 to 4.89)	0.439
12 months	176	57.5 (20.6)	181	58.8 (19.3)	1.59 (-2.28 to 5.45)	0.421
24 months	174	54.4 (20.4)	178	56.3 (20.3)	2.22 (-1.75 to 6.19)	0.274
36 months	169	53.3 (21.2)	172	55.2 (22.0)	2.80 (-1.40 to 7.01)	0.191
48 months	161	50.4 (26.0)	166	54.5 (23.7)	5.79 (0.84 to 10.75)	0.022
60 months	170	48.2 (26.2)	177	51.5 (23.9)	3.73 (-1.31 to 8.78)	0.146
	Control (N=88)		Any RIPC (N=274)		Difference in means (95% CI)**	P-value
	N	Mean (SD)	N	Mean (SD)		
eGFR						
All visits					3.93 (0.05 to 7.81)	0.047
3 months	87	53.9 (17.8)	269	56.0 (18.1)	3.07 (-1.05 to 7.19)	0.144
12 months	87	55.4 (20.9)	270	59.1 (19.6)	4.46 (-0.06 to 8.97)	0.053
24 months	86	52.4 (21.6)	266	56.3 (19.9)	4.50 (-0.14 to 9.14)	0.057
36 months	86	49.9 (20.8)	255	55.8 (21.6)	6.53 (1.63 to 11.43)	0.009
48 months	83	46.3 (24.7)	244	54.6 (24.7)	9.54 (3.81 to 15.28)	0.001
60 months	85	44.2 (26.6)	262	51.7 (24.3)	8.33 (2.49 to 14.17)	0.005

* Early RIPC vs. Control / late RIPC vs control adjusted for baseline donor eGFR by CKD-EPI and factorial design

**Any RIPC (early, late or dual) vs. Control, adjusted for baseline donor eGFR by CKD-EPI

Abbreviations: N, number of observations; SD, standard deviation; CI, confidence interval

eTable 4: Effect of RIPC on graft loss and death up to 5 years post-transplant, per-protocol analysis

Outcome	Control (N=180) N (%) with outcome	Early RIPC (N=182) N (%) with outcome	Hazard ratio (95% CI)*	p-value
Graft loss	11 (6.1)	10 (5.5)	0.88 (0.37 to 2.07)	0.770
Death	12 (6.7)	8 (4.4)	0.64 (0.26 to 1.58)	0.335
Graft loss or death	23 (12.8)	18 (9.9)	0.75 (0.41 to 1.39)	0.365

Outcome	Control (N=177) N (%) with outcome	Late RIPC (N=185) N (%) with outcome	Hazard ratio (95% CI)*	p-value
Graft loss	11 (6.2)	10 (5.4)	0.85 (0.36 to 2.01)	0.715
Death	13 (7.3)	7 (3.8)	0.50 (0.20 to 1.25)	0.139
Graft loss or death	24 (13.6)	17 (9.2)	0.66 (0.35 to 1.22)	0.183

Outcome	Control (N=88) N (%) with outcome	Any RIPC (N=274) N (%) with outcome	Hazard ratio (95% CI)**	p-value
Graft loss	6 (6.8)	15 (5.5)	0.78 (0.30 to 2.01)	0.609
Death	9 (10.2)	11 (4.0)	0.38 (0.16 to 0.91)	0.030
Graft loss or death	15 (17.0)	26 (9.5)	0.53 (0.28 to 1.01)	0.052

* Early RIPC vs. Control / late RIPC vs control adjusted for factorial design

**Any RIPC (early, late or dual) vs. Control

Abbreviations: N, number of observations; SD, standard deviation; CI, confidence interval

eTable 5: Adverse events, by randomised group

	Control (N=99) N (%)	Early RIPC (N=102) N (%)	Late RIPC (N=103) N (%)	Dual RIPC (N=102) N (%)
Recipients				
Any adverse event	59 (59.6)	76 (74.5)	72 (69.9)	81 (79.4)
Adverse event at RIC/sham	2 (2.0)	47 (46.1)	36 (35.0)	49 (48.0)
- Unexpected adverse event	0 (0.0)	2 (2.0)	0 (0.0)	0 (0.0)
- Pain/paraesthesia	2 (2.0)	43 (42.2)	34 (33.0)	45 (44.1)
- Skin petechiae	1 (1.0)	11 (10.8)	9 (8.7)	20 (19.6)
Adverse event during follow-up	59 (59.6)	58 (56.9)	55 (53.4)	62 (60.8)
- Death	9 (9.1)	4 (3.9)	3 (2.9)	5 (4.9)
- Hospital admission up to 12 months	59 (59.6)	57 (55.9)	54 (52.4)	60 (58.8)
- Other reported adverse event	0 (0.0)	2 (2.0)	4 (3.9)	2 (2.0)
Donors				
Any adverse event	7 (7.1)	42 (41.2)	40 (38.8)	48 (47.1)
Adverse event at RIC/sham	7 (7.1)	42 (41.2)	40 (38.8)	48 (47.1)
- Unexpected adverse event	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
- Pain/paraesthesia	7 (7.1)	41 (40.2)	38 (36.9)	46 (45.1)
- Skin petechiae	1 (1.0)	9 (8.8)	8 (7.8)	18 (17.6)
Adverse event during follow-up	0 (0.0)	2 (2.0)	0 (0.0)	0 (0.0)
- Hospital admission	0 (0.0)	1 (1.0)	0 (0.0)	0 (0.0)
- Other reported adverse event	0 (0.0)	1 (1.0)	0 (0.0)	0 (0.0)

Abbreviations: N, number of observations