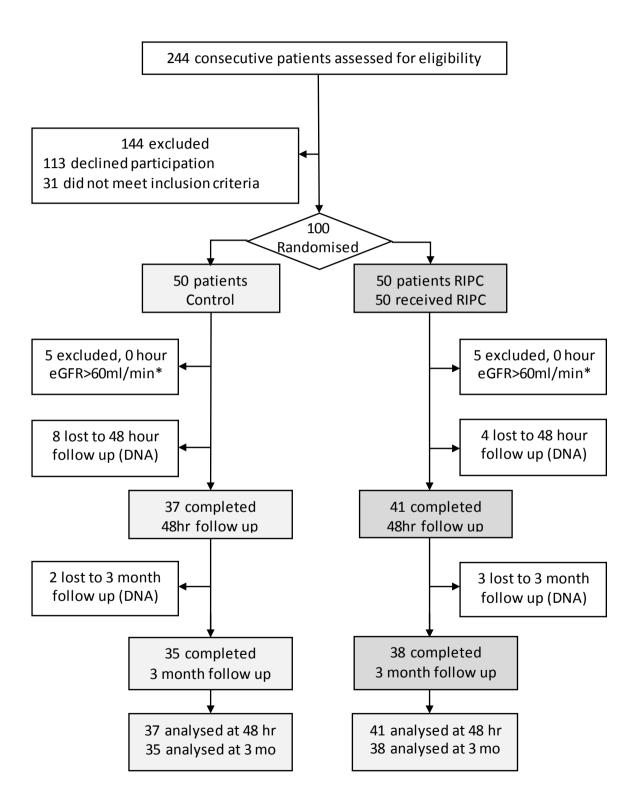
Participant Flow



Baseline Characteristics

| (n=37) | | Control Group | RIPC Group | P value |
|--|-----------------------------|---------------------------------------|-------------------|---------|
| Age > 75* 13 (35.1%) 16 (39%) 0.54 Gender (Male) 26 (70.3%) 26 (63.4%) 0.52 Body Mass Index, Kg/mz (SD) 30.39 (+/-6.31) 29.16 (+/-3.41) 0.28 Kg/mz (SD) 4 29.16 (+/-3.41) 0.28 Hypertension 29 (78.4%) 35 (85.4%) 0.42 Smoking History 27 (72.9%) 27 (65.9%) 0.49 Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.49 Dyslipidaemia 27 (72.9%) 3 (8.1%) 0.64 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous PCI 16 (43.2%) 10 (24.4%) < | | , | (n=41) | |
| Gender (Male) 26 (70.3%) 26 (63.4%) 0.52 Body Mass Index, Kg/m2 (SD) 30.39 (+/-6.31) 29.16 (+/-3.41) 0.28 Kg/m2 (SD) 4 29.16 (+/-3.41) 0.28 Hypertension 29 (78.4%) 35 (85.4%) 0.42 Smoking History 27 (72.9%) 27 (65.9%) 0.49 Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.43 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (81.9%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous PCI 16 (43.2%) 11 (26.8%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina < 1 month CCS I-IV | | 71.68 (+/-8.54) | | 0.81 |
| Body Mass Index, Kg/m2 (SD) | Age > 75* | 13 (35.1%) | 16 (39%) | 0.54 |
| Hypertension 29 (78.4%) 35 (85.4%) 0.42 | Gender (Male) | | 26 (63.4%) | 0.52 |
| Hypertension 29 (78.4%) 35 (85.4%) 0.42 Smoking History 27 (72.9%) 27 (65.9%) 0.49 Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.43 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Previous CABG 4 (10.8%) 10 (24.3%) 0.03 0 hour MDRD eGFR, 51.2 (40.3-56.9) 47.5 (40-54.2) 0.24 ml/min, median(Q1-Q3) 0 hour Creatinine mg/dl, 123 (113-158) 126 (119-140) 0.59 median (Q1-Q3) eGFR 40-60 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20-40 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20 ml/min* 0 0 0 - 0 CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LNVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF-35 2 (5.4%) 3 (7.3%) 0.73 Unknown LVEF 12 (32.4%) 18 (43.9%) 0.29 Blood Pressure, mmHg (SD) 132/76 139/75 0.16 Heart Rate, bpm (SD) 67 65 0.54 Contrast Volume ml (median/quartiles) 120 (81.5-200) 110 (90-156) 0.87 Mehran Score 6-10 (SD) 18 (48.6%) 20 (48.7%) 0.99 Mehran Score 11-15 (SD) 6 (16.2%) 11 (26.8%) 0.26 | Body Mass Index, | 30.39 (+/-6.31) | 29.16 (+/-3.41) | 0.28 |
| Smoking History 27 (72.9%) 27 (65.9%) 0.49 Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.43 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | Kg/m2 (SD) | | | |
| Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.43 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | Hypertension | 29 (78.4%) | 35 (85.4%) | 0.42 |
| Dyslipidaemia 27 (72.9%) 33 (80.5%) 0.43 Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | Smoking History | 27 (72.9%) | 27 (65.9%) | 0.49 |
| Diabetes Mellitus* 18 (48.6%) 19 (53.7%) 0.84 Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | | 27 (72.9%) | 33 (80.5%) | 0.43 |
| Peripheral Arterial Disease 3 (8.1%) 3 (7.3%) 0.89 Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina < 1 month CCS I-IV 18 (48.6%) 10 (24.3%) 0.03 O hour MDRD eGFR, ml/min, median(Q1-Q3) 0.12 O hour Creatinine mg/dl, median (Q1-Q3) 0.59 O hour Creatinine mg/dl, median (Q1-Q3) 0.83 O hour Creatinine mg/dl, median (Q1-Q3) 0.59 O hour Creatinine mg/dl, median (Q1-Q3) 0.61 O hour Creatinine mg/dl, median (Q1-Q3) 0.83 O hour Creatinine mg/dl, medi | | 18 (48.6%) | 19 (53.7%) | 0.84 |
| Acute Coronary Syndrome 4 (10.8%) 6 (14.6%) 0.61 Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | Peripheral Arterial Disease | | 3 (7.3%) | 0.89 |
| Previous MI 15 (40.5%) 12 (29.3%) 0.29 Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | | 4 (10.8%) | 6 (14.6%) | 0.61 |
| Previous PCI 16 (43.2%) 11 (26.8%) 0.12 Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | | ` , | , | 0.29 |
| Previous CABG 4 (10.8%) 10 (24.4%) 0.12 Angina <1 month CCS I-IV | Previous PCI | \ / | \ / | |
| Angina 1 month CCS I-IV 18 (48.6%) 10 (24.3%) 0.03 0 hour MDRD eGFR, ml/min, median(Q1-Q3) 51.2 (40.3-56.9) 47.5 (40-54.2) 0.24 0 hour Creatinine mg/dl, median (Q1-Q3) 123 (113-158) 126 (119-140) 0.59 median (Q1-Q3) 29 (70.7%) 0.83 eGFR 40-60 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20-40 ml/min* 0 0 - CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | | | , | |
| 0 hour MDRD eGFR, ml/min, median(Q1-Q3) 51.2 (40.3-56.9) 47.5 (40-54.2) 0.24 0 hour Creatinine mg/dl, median (Q1-Q3) 123 (113-158) 126 (119-140) 0.59 eGFR 40-60 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20-40 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR <20 ml/min* | Angina <1 month CCS I-IV | \ / | \ / | 0.03 |
| ml/min, median(Q1-Q3) 123 (113-158) 126 (119-140) 0.59 median (Q1-Q3) 27 (72.9%) 29 (70.7%) 0.83 eGFR 40-60 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR 20-40 ml/min* 0 - - CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | | , | , | |
| 0 hour Creatinine mg/dl, median (Q1-Q3) 123 (113-158) 126 (119-140) 0.59 eGFR 40-60 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20-40 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR 20 ml/min* 0 0 - CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | , | | | |
| median (Q1-Q3) 27 (72.9%) 29 (70.7%) 0.83 eGFR 40-60 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR 20-40 ml/min* 0 0 - CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | 0 hour Creatinine mg/dl. | 123 (113-158) | 126 (119-140) | 0.59 |
| eGFR 40-60 ml/min* 27 (72.9%) 29 (70.7%) 0.83 eGFR 20-40 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR < 20 ml/min* | median (Q1-Q3) | | , | |
| eGFR 20-40 ml/min* 10 (27.1%) 12 (29.3%) 0.83 eGFR <20 ml/min* | eGFR 40-60 ml/min* | 27 (72.9%) | 29 (70.7%) | 0.83 |
| eGFR <20 ml/min* 0 - CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | - | ` , | ` , | 0.83 |
| CCF, NYHA III-IV* 4 (10.8%) 5 (12.1%) 0.85 LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | , | | \ / | - |
| LV Ejection Fraction >50 17 (46.0%) 23 (56.1%) 0.37 LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | | 4 (10.8%) | 5 (12.1%) | 0.85 |
| LVEF 35-50 6 (16.2%) 5 (12.2%) 0.61 LVEF<35 | | ` , | , | |
| LVEF<35 2 (5.4%) 3 (7.3%) 0.73 Unknown LVEF 12 (32.4%) 10 (24.4%) 0.43 Haematocrit <0.39M/0.36Fs* | , | ` / | , , | 0.61 |
| Unknown LVEF 12 (32.4%) 10 (24.4%) 0.43 Haematocrit <0.39M/0.36Fs* | | ` , | | |
| Haematocrit <0.39M/0.36Fs* | Unknown LVEF | ` , | ` ′ | 0.43 |
| Blood Pressure, mmHg (SD) 132/76 (+/-19/10) 139/75 (+/-24/10) Heart Rate, bpm (SD) 67 65 0.54 Contrast Volume ml (median/quartiles) 120 (81.5-200) 110 (90-156) 0.87 Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | Haematocrit <0.39M/0.36Fs* | \ / | ` , | 0.29 |
| Heart Rate, bpm (SD) (+/-19/10) (+/-24/10) Contrast Volume ml (median/quartiles) 120 (81.5-200) 110 (90-156) 0.87 Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | | , | | |
| Heart Rate, bpm (SD) 67 65 0.54 Contrast Volume ml (median/quartiles) 120 (81.5-200) 110 (90-156) 0.87 Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | , 8() | | | |
| Contrast Volume ml (median/quartiles) 120 (81.5-200) 110 (90-156) 0.87 Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | Heart Rate, bpm (SD) | | | 0.54 |
| (median/quartiles) Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | 1 , | 120 (81.5-200) | 110 (90-156) | 0.87 |
| Hydration Volume, ml (SD) 750.29 (+/-169.1) 714.9 (+/-101.59) 0.26 Mehran Score <5 (SD) | (median/quartiles) | | | |
| Mehran Score <5 (SD) | ` ' | 750.29 (+/-169.1) | 714.9 (+/-101.59) | 0.26 |
| Mehran Score 6-10 (SD) 18 (48.6%) 20 (48.7%) 0.99 Mehran Score 11-15 (SD) 6 (16.2%) 11 (26.8%) 0.26 | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | (' | |
| Mehran Score 11-15 (SD) 6 (16.2%) 11 (26.8%) 0.26 | ` , | | · / | 0.99 |
| | · , | , | , | |
| | ` , | \ / | , | |

| | Control (N=37) | RIPC (N=41) | P Value |
|----------------------------|----------------|-------------|---------|
| Aspirin | 33 (89.2%) | 32 (78%) | 0.18 |
| Clopidogrel/ P2Y(12) inhib | 30 (81.1%) | 25 (61%) | 0.05 |
| B-Blocker | 26 (70.3%) | 33 (80.5%) | 0.12 |
| Ca Channel Blocker | 12 (32.4%) | 13 (31.7%) | 0.94 |
| Nitrate | 19 (51.4%) | 9 (22%) | 0.007 |
| Statin | 33 (89.2%) | 33 (80.5%) | 0.29 |
| ACE-I/ARB | 23 (62.2%) | 31 (75.6%) | 0.20 |
| Insulin | 6 (16.2%) | 6 (14.6%) | 0.85 |
| Sulphonylurea | 7 (18.9%) | 12 (29.3%) | 0.28 |
| Metformin | 11 (29.7%) | 12 (29.3%) | 0.96 |
| Glitazone | 2 (5.4%) | 1 (2.4%) | 0.49 |
| Gliptin | 2 (5.4%) | 1 (2.4%) | 0.49 |
| Warfarin | 3 (8.1%) | 7 (17.1%) | 0.24 |
| Diuretic | 14 (37.8%) | 17 (41.5%) | 0.74 |
| Nephrotoxic (NSAID etc.) | 2 (5.4%) | 1 (2.4%) | 0.49 |

Outcome Measures

| Primary Outcome | Control Group (n=37) | RIPC Group (n=41) | Odds Ratio & Significance |
|---------------------------------|---------------------------|---------------------------|---------------------------------|
| CIN | 2 (5.4%) | 2 (4.8%) | OR 1.1 (CI 0.15 to 8.33) |
| (25% or 44 μmol/1 | | | p = 0.916 |
| increase in | | | |
| Creatinine) | | | Adj. OR 1.9 * |
| (0/) | | | (CI 0.19 to 20.5) |
| n, (%) | | | p = 0.575 |
| Secondary | Control Group | RIPC Group | Significance** |
| Outcomes | Median (Q1-Q3) | Median (Q1-Q3) | |
| 0-48 hour SCr Δ | 1 (-13.5 to 13.5) | 0.5 (-6.8 to 10.5) | p = 0.97 |
| μmol/1 | | | 0.004 |
| 0-48 hour eGFR Δ | 0.9 (-4.3 to 8.4) | -0.3 (-3.4 to 3.3) | p = 0.834 |
| ml/min 0-48 hour UACR | 0.7 (-0.2 to 4.5) | 0 (-1.3 to 0.3) | p = 0.09 |
| Δ IIOUI UACK | 0. 7 (-0.2 to 4.3) | 0 (-1.3 to 0.3) | p = 0.09 |
| mg/mmol | | | |
| $0-3 \text{ month SCr } \Delta$ | 2.0 (-12.0 to 9.5) | 2.0 (-14.3 to 9.8) | p = 0.703 |
| μmol/1 | | , | • |
| 0-3 month eGFR | -1.1 (-5.2 to 2.2) | -1.1 (-5.6 to 8.5) | p = 0.703 |
| Δ, | | | |
| ml/min | | | |
| 0-3 month UACR | 0.1 (-0.9 to 3.7) | 0.0 (-1.4 to 0.6) | p = 0.206 |
| Δ | | | |
| mg/mmol 0-6 hour NGAL Δ | -59.5 (-98.7 to - | -4.0 (-85.2 to 21) | p = 0.394 |
| ng/l | 19.5) | -4.0 (-03.2 to 21) | p = 0.374 |
| Secondary | Control Group | RIPC Group | Odds Ratio & |
| Outcome | (n=37) | (n=41) | Significance |
| Cardio-renal | 3 (8.1%) | 2 (4.8%) | OR 1.7 |
| Endpoints | 3 (0.170) | - (1.079) | (CI 0.27 –to 16.8) |
| F | 1 Death (Non-CV) | 1 Haemorrhage | p=0.565 |
| n, (%) | 1 ACS | 1 Acute LVF | |
| | 1 Readmission with | | Adj. OR 2.2* |
| | haemorrhage | | (CI 0.29 to 18.2) |
| | | | p = 0.437 |
| | | | |

Adverse Events

No SAE's were recorded relating to blood pressure cuff inflation in either group

Control group

- 1. One patient without CIN was readmitted to hospital with suspected ACS with no ECG changes, negative Troponin T and no acute obstructive lesion on repeat coronary angiography.
- 2. One patient without CIN died during follow up due to complications during elective cancer surgery
- 3. One patient without CIN was readmitted to hospital during follow up with an upper gastrointestinal bleed requiring blood transfusion.

RIPC group

- 1. One patient suffered a femoral haematoma and hypotension post procedure and developed CIN
- 2. One patient without CIN was readmitted to hospital with decompensated heart failure during follow up.
- One patient developed an allergic contrast reaction and required oral steroids but did not develop CIN.