**Supplementary table 1:** Univariable linear regression for log(UACR) from the index cohort

| Variable | Adjusted $R^2$ | P for $R^2$ |
|---|---|---|
| *Demographics* | | |
| Type of visit | 0.007 | <0.001 |
| Hospitalisation | | |
| Outpatient Visit | | |
| Age (years) | 0.014 | <0.001 |
| Sex (% Male) | 0 | 0.146 |
| Race | -0.001 | 0.735 |
| Weight (kg) | 0 | 0.57 |
| BMI (kg/m2) | 0 | 0.484 |
| LVEF (%) | 0.003 | 0.004 |
| Systolic Blood Pressure (mmHg) | 0.018 | <0.001 |
| Diastolic Blood Pressure (mmHg) | 0.002 | 0.01 |
| Heart Rate (beats/min) | 0.009 | <0.001 |
| Duration of heart failure (years) | -0.002 | 0.419 |
| NYHA class | 0.025 | <0.001 |
| I | | |
| II | | |
| III | | |
| IV | | |
| *Medication use* | | |
| ACE-inhibitors or ARB (%) | 0.007 | <0.001 |
| Beta blockers (%) | 0.002 | 0.021 |
| Mineralocorticoid Receptor Antagonists (%) | 0.009 | <0.001 |
| Digoxin (%) | 0 | 0.488 |
| Loop diuretic dose (furosemide or equivalent) | 0.009 | <0.001 |

| Medical History | | |
|---|---|---|
| Myocardial infarction (%) | 0 | 0.847 |
| Coronary artery bypass graft (%) | 0 | 0.268 |
| Valvular disease (%) | 0 | 0.852 |
| PCI (%) | 0 | 0.667 |
| Atrial fibrillation (%) | 0.004 | 0.002 |
| Stroke (%) | 0.002 | 0.017 |
| Peripheral Vascular Disease (%) | 0.009 | <0.001 |
| Hypertension (%) | 0.017 | <0.001 |
| Diabetes Mellitus (%) | 0.031 | <0.001 |
| COPD (%) | 0 | 0.587 |
| Renal Disease (%) | 0.024 | <0.001 |
| Treated thyroid disease (%) | -0.001 | 0.781 |
| No | | |
| Hypothyroidism | | |
| Hyperthyroidism | | |
| Current Malignancy (%) | 0.001 | 0.044 |
| *Heart failure aetiology* | 0.014 | <0.001 |
| Cardiomyopathy | | |
| Valvular Disease | | |
| Hypertensive | | |
| Other | | |
| Unknown | | |
| *Clinical Profile* | | |
| Rales/crackles | 0.014 | <0.001 |
| Pulmonary congestion > 1/3 up lung fields (%) | 0.005 | 0.008 |
| Peripheral oedema (%) | 0.04 | <0.001 |
| Elevated JVP (%) | 0.016 | <0.001 |
| Haepatomegaly (%) | 0.006 | <0.001 |
| Third heart tone (%) | 0 | 0.526 |
| Orthopnoea (%) | 0.008 | <0.001 |

| | | |
|---|---|---|
| Dyspnoea VAS score | 0.007 | 0.023 |
| *Chest X-ray* | | |
| Pulmonary oedema (%) | 0.004 | 0.005 |
| Upper lobe venous congestion (%) | 0.01 | <0.001 |
| Cardiomegaly (defined as CTR > 0.5) (%) | 0.012 | <0.001 |
| *Laboratory values* | | |
| Haemoglobin (g/dL)** | 0.013 | <0.001 |
| Log Haematocrit (%) | 0.005 | 0.001 |
| Serum Creatinine (μmol/L) | 0.048 | <0.001 |
| eGFR (ml/min)** | 0.031 | <0.001 |
| Log Urea (mmol/L) | 0.021 | <0.001 |
| Log Fractional excretion of Urea | 0.001 | 0.0845 |
| Sodium (mmol/L) | 0 | 0.353 |
| Potassium (mmol/L) | 0.002 | 0.015 |
| Log NT pro-BNP (ng/L) | 0.113 | <0.001 |
| Serum Albumin (mmol/L) | 0.023 | <0.001 |
| ALAT (U/L)* | -0.001 | 0.68 |
| Alkaline Phophatase (μg/L)* | 0.01 | <0.001 |
| Gamma-GT (U/L)* | 0.006 | 0.009 |
| Total bilirubin* | 0.002 | 0.084 |
| Transferrin (g/L) | -0.002 | 0.419 |
| Ferritin (pmol/L) | 0.001 | 0.273 |
| TSH (mU/L) | -0.001 | 0.971 |
| Triglycerides (mmol/L)* | 0.003 | 0.045 |
| Total Cholesterol (mmol/L)* | 0.01 | <0.001 |
| HDL (mmol/L)* | 0.012 | <0.001 |
| LDL (mmol/L)* | 0.008 | 0.003 |
| Log bio-ADM (pg/mL) | 0.072 | <0.001 |
| Troponin T (ug/L) | -0.002 | 0.861 |
| Glucose (mmol/L) | 0.031 | <0.001 |
| Log Aldosterone (pg/mL) | 0.007 | 0.001 |

| | | |
|---|---|---|
| Log Renin (UI/mL) | 0.011 | <0.001 |
| Log GDF-15 (pg/mL) | 0.127 | <0.001 |
| Log FGF-23 (RU/ml) | 0.099 | <0.001 |
| Log CA-125 | 0.037 | <0.001 |
| Log Urinary KIM-1 (µg/mL) | 0.031 | <0.001 |
| Log Urinary NGAL (µg/mL) | 0.011 | <0.001 |
| Log Plasma NGAL (ng/mL) | 0.026 | <0.001 |
| Log Urinary osteopontin (µg/mL) | 0 | 0.838 |
| Log Urinary uromodulin (µg/mL) | 0.018 | <0.001 |

\* Omitted from multivariable model due to >1/3 missingness, \*\*omitted from multivariable model due to collinearity with another variable.

Abbreviations: BMI: body mass index; LVEF: left ventricular ejection fraction; NYHA: New York Heart Association; ACE: angiotensin converter enzyme; ARB: angiotensin receptor blocker; PCI: percutaneous coronary intervention; COPD: chronic obstructive pulmonary disease; VAS: visual analogue scale; CTR: cor-to-thorax ratio; eGFR; estimated glomerular filtration rate; NT pro-BNP: N-terminal pro-B type natriuretic peptide; ALAT: alanine transferase; gamma-GT: gamma-glutamyltransferase; TSH: thyroid stimulating hormone; HDL: high density lipoprotein; LDL; low density lipoprotein; bio-ADM: biologically active adrenomedullin; GDF-15: Growth differentiation factor 15; FGF-23: Fibroblast growth factor 23; CA-125: cancer antigen 125; KIM-1: kidney injury marker-1; NGAL: Neutrophil gelatinase-associated lipocalin.

**Supplementary table 2a:**

**NYHA I/II index**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log NT pro-BNP | 0.406 | (0.27-0.54) | 5.87 | <0.001 |
| History of diabetes | 0.748 | (0.47-1.03) | 5.202 | <0.001 |
| log Renin | -0.291 | (-0.42--0.16) | -4.356 | <0.001 |
| log Bio-ADM | 0.331 | (0.16-0.5) | 3.872 | <0.001 |
| log Urinary NGAL | 0.162 | (0.04-0.29) | 2.562 | 0.011 |
| log Creatinine | 0.129 | (0-0.26) | 1.964 | 0.05 |

N = 710

Adj R2 = 0,1779

**NYHA III index**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log NT pro-BNP | 0.489 | (0.35-0.63) | 6.707 | <0.001 |
| log Urinary KIM1 | 0.396 | (0.27-0.53) | 6.025 | <0.001 |
| log UREA | 0.365 | (0.21-0.52) | 4.526 | <0.001 |
| Systolic Blood Pressure | 0.272 | (0.14-0.4) | 4.122 | <0.001 |
| History of diabetes | 0.508 | (0.26-0.76) | 3.991 | <0.001 |
| log Fractional Excretion of Urea | 0.317 | (0.15-0.48) | 3.818 | <0.001 |
| Peripheral edema above knees | 0.692 | (0.25-1.14) | 3.066 | 0.002 |
| log Renin | -0.257 | (-0.39--0.13) | -3.876 | <0.001 |
| log Urinary Uromodulin | -0.191 | (-0.32--0.07) | -3.004 | 0.003 |
| log Bio-ADM | 0.182 | (0.05-0.31) | 2.795 | 0.005 |

N = 661

Adj R2 = 0,3009

**NYHA IV index**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log Glucose | 0.428 | (0.19-0.67) | 3.518 | 0.001 |
| log NT pro-BNP | 0.483 | (0.21-0.76) | 3.482 | 0.001 |
| History of hypertension | 0.713 | (0.24-1.18) | 3 | 0.003 |
| log Urinary KIM-1 | 0.397 | (0.13-0.66) | 2.977 | 0.003 |
| Jugular venous distention | 0.628 | (0.15-1.1) | 2.609 | 0.01 |
| log Creatinine | -0.372 | (-0.66--0.08) | -2.55 | 0.012 |
| History of renal disease | 0.615 | (0.03-1.2) | 2.091 | 0.038 |
| ACE-inhibitor use | -0.512 | (-0.99--0.03) | -2.115 | 0.036 |

N = 153

Adj R2 = 0,269

**Supplementary table 2b:**

**NYHA I/II Validation**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log NT pro-BNP | 0.633 | (0.5-0.76) | 9.701 | <0.001 |
| History of diabetes | 0.514 | (0.27-0.76) | 4.182 | <0.001 |
| log bilirubin | 0.214 | (0.09-0.34) | 3.365 | 0.001 |
| History of hypertension | 0.361 | (0.14-0.58) | 3.208 | 0.001 |
| History of peripheral artery disease | 0.367 | (0.09-0.65) | 2.557 | 0.011 |

N = 595

$R^2$ = 0.213

**NYHA III validation**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log NT pro-BNP | 0.7 | (0.57-0.83) | 10.669 | <0.001 |

| | | | | |
|---|---|---|---|---|
| Systolic brood pressure | 0.457 | (0.33-0.59) | 6.994 | <0.001 |
| log bio-ADM | 0.286 | (0.15-0.42) | 4.219 | <0.001 |
| Age | -0.148 | (-0.28--0.02) | -2.219 | 0.027 |
| Jugular venous distention | -0.271 | (-0.54-0) | -1.99 | 0.047 |

N = 531

$R^2 = 0.254$

**NYHA IV validation**

| Variable | Standardised Beta | 95% CI | T-value | P-value |
|---|---|---|---|---|
| log NT pro-BNP | 0.518 | (0.27-0.76) | 4.133 | <0.001 |
| Systolic Blood Pressure | 0.371 | (0.18-0.57) | 3.741 | <0.001 |
| History of diabetes | 0.493 | (0.04-0.94) | 2.167 | 0.032 |
| log Serum creatinine | 0.221 | (0-0.44) | 1.996 | 0.047 |
| Heart rate | 0.215 | (0-0.43) | 1.975 | 0.05 |

N = 186

$R^2 = 0.228$

**Supplementary table 3a:** comparison of variable selection using LASSO and stepwise backwards selection for the entire cohort:

| Variable | Index Cohort | | Validation Cohort | |
|---|---|---|---|---|
| | **Backward stepwise** | **LASSO >15% miss excluded (lambda 1se)** | **Backward stepwise** | **LASSO >15% miss excluded (lambda 1se)** |
| log NT pro-BNP | x | x | x | x |
| log Urinary KIM-1 | x | x | | |
| Log Plasma Urea | x | | | |
| FE of Urea | x | | | |
| Hx of Diabetes Mellitus | x | x | x | x |
| Systolic Blood Pressure | x | x | x | x |
| log bio-ADM | x | x | x | x |
| log Renin | x | x | | |
| Log Urinary NGAL | x | x | | |
| Creatinine | | x | x | |
| Log GDF-15 | | x | | x |
| Hypertension | | x | | |
| Log UroM | | x | | |
| FGF-23 | | x | | |
| y-GT | | | x | x |
| VAS | | | x | X |
| BMI | | | x | |
| Heart Rate | | | x | |
| Oedema | | | x | x |

| | | | | |
|---|---|---|---|---|
| NYHA class IV | | | | x |
| CA-125 | | | | x |

**Supplementary table 3b:** comparison of variable selection using LASSO and stepwise backwards selection for the HFrEF (LVEF <40%) subgroup:

| | Index HFrEF | | Validation HFrEF | |
|---|---|---|---|---|
| **Variable** | **Stepwise backwards** | **LASSO >15% miss excluded (lambda 1se)** | **Stepwise backwards** | **LASSO >15% miss excluded (lambda 1se)** |
| Log NT pro-BNP | x | x | x | x |
| Log plasma Urea | x | | | x |
| Log urinary KIM-1 | x | x | | |
| Log bio-ADM | x | x | x | |
| Systolic blood pressure | x | x | x | |
| History of Diabetes Mellitus | x | x | x | x |
| Log Renin | x | x | | |
| Log Urinary NGAL | x | x | | |
| Log fractional excretion of urea | x | | | |
| History of hypertension | | x | | x |
| Plasma Glucose | x | | | |
| FGF-23 | | x | | |
| Log GDF-15 | | x | | |
| Log UROM | x | x | | |
| y-GT | | | x | |
| VAS dyspnoea score | | | x | |
| Peripheral oedema above knee | | | | x |
| NYHA IV | | | | x |
| Sodium | | | | x |

| | | | | |
|---|---|---|---|---|
| CA-125 | | | | x |
| Bilirubin | | | x | x |

**Supplementary table 3c**: comparison of variable selection using LASSO and stepwise backwards selection for the HFpEF (LVEF ≥50%) subgroup:

| | Index | | Validation | |
|---|---|---|---|---|
| Variable | Stepwise backwards selection | Index Lasso >15% miss excluded (lambda 1se) | Stepwise backwards selection | Validation Lasso >15% miss excluded (lambda 1se) |
| log NT pro-BNP | x | x | x | x |
| log KIM-1 | x | | | |
| Hx of Diabetes Mellitus | x | | x | |
| log Renin | x | | | |
| Creatinine | x | | | |
| log Uromodulin | x | x | | |
| Periperal edema | x | | | |
| Betablocker use | x | | | |
| Renal disease | | x | | |
| Systolic Blood Pressure | | | x | x |
| Heart Rate | | | | x |
| VAS | | | | x |
| HDL | | | | x |
| Bio-ADM | | | x | x |
| Glucose | | | | x |
| CA-125 | X | | | x |

**Supplementary Table 4a.** Multivariable regression analysis using LASSO variable selection, index cohort:

| Variable | Standardised regression coefficient (95% CI) | T-value | P-value |
|---|---|---|---|
| log NT pro BNP | 0.34 (0.25-0.43) | 7.274 | <0.001 |
| log GDF-15 | 0.325 (0.22-0.43) | 6.186 | <0.001 |
| Systolic Blood Pressure | 0.242 (0.16-0.32) | 5.97 | <0.001 |
| log Urinary KIM-1 | 0.246 (0.16-0.33) | 5.673 | <0.001 |
| History of Diabetes Mellitus | 0.457 (0.29-0.62) | 5.528 | <0.001 |
| log plasma Renin | -0.203 (-0.28--0.12) | -4.925 | <0.001 |
| log Bio-ADM | 0.207 (0.12-0.29) | 4.627 | <0.001 |
| log Serum Creatinine | 0.087 (0.01-0.17) | 2.116 | 0.034 |
| history of hypertension | 0.166 (0.01-0.32) | 2.053 | 0.04 |
| Log urinary NGAL | 0.081 (0-0.16) | 1.919 | 0.055 |
| FGF-23 | 0.004 (-0.08-0.08) | 0.088 | 0.93 |

**Supplementary Table 4b.** Multivariable regression analysis using LASSO variable selection, validation cohort:

| Variable | Standardised regression coefficient (95% CI) | T-value | P-value |
|---|---|---|---|
| Systolic blood pressure | 0.405 (0.32-0.49) | 9.606 | <0.001 |
| log NT pro-BNP | 0.473 (0.37-0.58) | 8.864 | <0.001 |
| History of Diabetes Mellitus | 0.428 (0.25-0.61) | 4.645 | <0.001 |
| log Gamma-GT | 0.156 (0.07-0.24) | 3.494 | <0.001 |
| VAS Dyspnoea score | 0.125 (0.03-0.22) | 2.669 | 0.008 |
| log GDF-15 | 0.118 (0.01-0.22) | 2.189 | 0.029 |
| log bio-ADM | 0.108 (0.01-0.21) | 2.065 | 0.039 |
| log CA-125 | 0.108 (0-0.21) | 2.047 | 0.041 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Peripheral oedema above knees | 0.328 (-0.06-0.72) | | 1.641 | 0.101 | | |
| NYHA class IV | -0.057 (-0.31-0.2) | | -0.439 | 0.661 | | |

**Supplementary Table 4c**. Multivariable regression analysis using LASSO variable selection, subgroup of patients with HFrEF (LVEF <40%):

| | Index Cohort | | | Validation Cohort | | |
|---|---|---|---|---|---|---|
| **Variable** | **Standardised regression coefficient (95% CI)** | **T-value** | **P-value** | **Standardised regression coefficient (95% CI)** | **T-value** | **P-value** |
| log NT pro-BNP | 0.361 (0.25-0.47) | 6.535 | <0.001 | 0.487 (0.32-0.66) | 5.59 | <0.001 |
| log GDF-15 | 0.346 (0.23-0.47) | 5.686 | <0.001 | | | |
| Systolic Blood Pressure | 0.256 (0.16-0.35) | 5.145 | <0.001 | | | |
| log Urinary KIM-1 | 0.254 (0.15-0.36) | 4.801 | <0.001 | | | |
| log bio-ADM | 0.216 (0.11-0.32) | 3.964 | <0.001 | | | |
| History of Diabetes Mellitus | 0.36 (0.17-0.55) | 3.678 | <0.001 | 0.525 (0.22-0.83) | 3.369 | 0.001 |
| log Urinary Uromodulin | -0.17 (-0.26--0.08) | -3.594 | <0.001 | | | |
| log Renin | -0.138 (-0.23--0.04) | -2.837 | 0.005 | | | |
| History of Hypertension | 0.2 (0.02-0.38) | 2.145 | 0.032 | 0.451 (0.18-0.73) | 3.217 | 0.001 |
| log Urinary NGAL | 0.077 (-0.02-0.17) | 1.539 | 0.124 | | | |
| FGF-23 | -0.02 (-0.11-0.06) | -0.471 | 0.637 | | | |
| log Biliurubin | | | | 0.16 (0.01-0.31) | 2.148 | 0.032 |
| Serum Sodium | | | | 0.144 (0.01-0.28) | 2.076 | 0.039 |
| log CA125 | | | | 0.14 (-0.02-0.3) | 1.719 | 0.086 |
| log Urea | | | | 0.102 (-0.04-0.25) | 1.405 | 0.161 |
| NYHA IV | | | | -0.177 (-0.61-0.25) | -0.815 | 0.416 |
| Peripheral oedema above knees | | | | 0.011 (-0.69-0.71) | 0.03 | 0.976 |

**Supplementary Table 4d.** Multivariable regression analysis using LASSO variable selection, subgroup of patients with HFpEF (LVEF ≥50%):

| Variable | Index Cohort | | | Validation Cohort | | |
|---|---|---|---|---|---|---|
| | Standardised regression coefficient (95% CI) | T-value | P-value | Standardised regression coefficient (95% CI) | T-value | P-value |
| Log NT pro-BNP | 0.755 (0.36-1.15) | 3.799 | <0.001 | 0.622 (0.39-0.86) | 5.247 | <0.001 |
| History of renal disease | 0.967 (0.3-1.63) | 2.876 | 0.005 | | | |
| log Urinary Uromodulin | -0.278 (-0.58-0.02) | -1.843 | 0.068 | | | |
| log Glucose | | | | 0.363 (0.2-0.52) | 4.514 | <0.001 |
| Systolic Blood Pressure | | | | 0.333 (0.15-0.51) | 3.626 | <0.001 |
| HDL-cholesterol | | | | 0.323 (0.15-0.5) | 3.612 | <0.001 |
| VAS Dyspnoea score | | | | 0.192 (0.01-0.38) | 2.048 | 0.042 |
| Heart Rate | | | | 0.148 (-0.05-0.35) | 1.462 | 0.145 |
| log bio-ADM | | | | 0.14 (-0.06-0.34) | 1.409 | 0.16 |
| log CA-125 | | | | 0.141 (-0.09-0.37) | 1.219 | 0.224 |

**Supplementary Table 5**: multivariable linear regression analysis for history of diabetes subgroups

| Index (N = 614) | | | | Validation (N = 417) | | |
|---|---|---|---|---|---|---|
| **History of diabetes = YES** | | | | | | |
| **Variable** | **Standardised regression coefficient (95% CI)** | **T value** | **p-value** | **Standardised regression coefficient 95% CI** | **T value** | **p-value** |
| log NT pro-BNP | 0.451 (0.28-0.62) | 5.285 | <0.001 | 0.548 (0.39-0.71) | 6.68 | <0.001 |
| Systolic Blood Pressure | 0.434 (0.27-0.6) | 5.187 | <0.001 | 0.55 (0.41-0.69) | 7.508 | <0.001 |
| log Renin | -0.328 (-0.49--0.17) | -3.991 | <0.001 | | | |
| Bibasalar Rales | | | | 0.545 (0.23-0.85) | 3.453 | 0.001 |
| History of Atrial Fibrillation | | | | 0.483 (0.19-0.77) | 3.28 | 0.001 |
| log Serum Creatinin | | | | 0.253 (0.1-0.41) | 3.18 | 0.002 |
| VAS dyspnoea scale | | | | 0.236 (0.08-0.39) | 3.058 | 0.002 |
| Age | | | | -0.25 (-0.43--0.07) | -2.727 | 0.007 |
| log Urinary NGAL | 0.205 (0.06-0.35) | 2.843 | 0.005 | | | |
| log Plasma FGF-23 | 0.256 (0.07-0.44) | 2.704 | 0.007 | | | |
| log ASAT | | | | -0.281 (-0.51--0.06) | -2.452 | 0.015 |
| log bio-ADM | 0.196 (0.02-0.37) | 2.157 | 0.031 | | | |
| | *Adjusted R$^2$ = 0.204* | | | *Adjusted R$^2$ = 0.323* | | |
| **History of diabetes = NO** | | | | | | |
| | Index (N = 924) | | | Validation (N = 826) | | |
| **Variable** | **Standardised regression coefficient (95% CI)** | **T value** | **p-value** | **Standardised regression coefficient 95% CI** | **T value** | **p-value** |
| log NT pro-BNP | 0.463 (0.35-0.58) | 8.121 | <0.001 | 0.513 (0.4-0.62) | 9.24 | <0.001 |
| Systolic Blood Pressure | | | | 0.336 (0.24-0.43) | 6.968 | <0.001 |
| log bio-ADM | 0.283 (0.17-0.39) | 5.012 | <0.001 | | | |
| History of hypertension | 0.421 (0.22-0.62) | 4.098 | <0.001 | | | |
| log Bilirubin | | | | 0.179 (0.08-0.28) | 3.566 | <0.001 |
| Serum Albumin | -0.163 (-0.27--0.06) | -3.1 | 0.002 | | | |
| VAS dyspnoea scale | | | | 0.152 (0.06-0.25) | 3.087 | 0.002 |
| Heart Rate | | | | 0.144 (0.05-0.24) | 2.924 | 0.004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Peripheral oedema above knees | | | | 0.554 (0.14-0.97) | 2.616 | 0.009 |
| History of malignancy | | | | 0.582 (0.13-1.03) | 2.537 | 0.011 |
| Body Mass Index | | | | -0.134 (-0.24--0.03) | -2.481 | 0.013 |
| Jugular venous distention | 0.249 (0.02-0.48) | 2.153 | 0.032 | | | |

<div align="center">

*Adjusted $R^2$ = 0.181*          *Adjusted $R^2$ = 0.248*

</div>

**Supplementary table 6:** Multivariable logistic regression for any albuminuria

| | Index | | | Validation | | |
|---|---|---|---|---|---|---|
| | OR | 95% CI | P-value | OR | 95% CI | P-value |
| **NT pro BNP** *(per 1000 units increase)* | 1.091 | 1.066 - 1.117 | <0.001 | 1.103 | 1.055 - 1.160 | <0.001 |
| **History of diabetes** | 1.575 | 1.266 - 1.961 | <0.001 | 1.874 | 1.274 - 2.767 | 0.002 |
| **History of hypertension** | | | | 1.898 | 1.301 - 2.787 | <0.001 |
| **Bio-ADM** *(per 10 units increase)* | 1.035 | 1.013 - 1.060 | 0.003 | | | |
| **GDF-15** *(per 1000 units increase)* | 1.009 | 1.005 - 1.013 | <0.001 | | | |
| **Systolic blood pressure** *(per 10 units increase)* | 1.146 | 1.093 - 1.204 | <0.001 | | | |
| **ACE- inhibitor use** | 0.783 | 0.623 - 0.986 | 0.037 | | | |
| **Aldosterone** *(per 10 units increase)* | 0.990 | 0.985 - 0.996 | <0.001 | | | |
| **History of atrial fibrillation** | 1.257 | 1.024 - 1.544 | 0.029 | | | |
| **NYHA class IV** | 1.596 | 1.166 - 2.193 | 0.004 | | | |
| **Bilirubin** *(per 5 units increase)* | | | | 1.183 | 1.063 - 1.323 | 0.003 |
| **Peripheral edema above knee** | | | | 2.944 | 1.339 - 6.781 | 0.009 |
| **Body mass index** | | | | 0.965 | 0.936 - 0.995 | 0.026 |
| **Tricuspid regurgitation rate** *(per 5 units increase)* | | | | 1.079 | 1.009 - 1.158 | 0.029 |
| **Age** *(per 10 units increase)* | | | | 1.226 | 1.015 - 1.489 | 0.037 |
| **Heart rate** | | | | 1.011 | 1.000 - 1.021 | 0.043 |

**Abbreviations:** NT pro-BNP: N-terminal pro-B-type natriuretic peptide; bio-ADM: biologically active adrenomedullin; GDF-15: growth differentiation factor-15; ACE: angiotensin converter enzyme; NYHA: New York Heart Association;