

Supplemental Material

Table S1. Univariate analysis between hs-TnT and LVH, systolic and diastolic dysfunction

| Characteristics | Univariate analysis for LVH | | Univariate analysis for systolic dysfunction | | Univariate analysis for diastolic dysfunction | |
|--------------------------------|-----------------------------|----------|--|----------|---|----------|
| | OR (95% CI) | <i>P</i> | OR (95% CI) | <i>P</i> | OR (95% CI) | <i>P</i> |
| Age | 1.05 (1.04-1.06) | <0.001 | 1.01 (0.98-1.04) | 0.58 | 1.06 (1.04-1.08) | <0.001 |
| Sex (vs. women) | 0.71 (0.576-0.87) | 0.001 | 3.24 (1.23-8.49) | 0.02 | 0.55 (0.41-0.77) | <0.001 |
| CKD stage | | | | | | |
| stage 1 | reference | | reference | | reference | |
| stage 2 | 1.46 (0.96-2.24) | 0.078 | 0.99 (0.16-5.89) | 0.98 | 1.31 (0.58-2.96) | 0.51 |
| stage 3a | 1.93 (1.26-2.95) | 0.002 | 1.73 (0.33-9.01) | 0.51 | 2.22 (1.03-2.80) | 0.04 |
| stage 3b | 2.80 (1.89-4.15) | <0.001 | 2.27 (0.48-10.76) | 0.30 | 3.33 (1.64-6.77) | 0.001 |
| stage 4 | 4.46 (3.04-6.54) | <0.001 | 2.72 (0.59-12.49) | 0.20 | 5.43 (2.73-10.78) | <0.001 |
| stage 5 | 5.28 (3.24-8.58) | <0.001 | 1.96 (0.27-14.08) | 0.50 | 6.67 (3.04-14.63) | <0.001 |
| Diabetes | 1.08 (0.70-1.68) | 0.73 | 1.28 (0.30-5.46) | 0.74 | 0.66 (0.28-1.53) | 0.33 |
| Hypertension* | 8.46 (3.14-34.61) | 0.003 | | | 7.36 (1.62-130.17) | 0.05 |
| Coronary artery disease | 2.74 (1.30-5.81) | 0.008 | 29.13 (11.28-75.25) | <0.001 | 0.85 (0.20-3.61) | 0.83 |
| Smoking | | | | | | |
| never smoker | reference | | reference | | reference | |
| ex-smoker | 1.34 (0.95-1.90) | 0.10 | 1.61 (0.47-5.55) | 0.45 | 1.53 (0.91-2.56) | 0.11 |
| current smoker | 1.20 (0.88-1.63) | 0.26 | 2.21 (0.80-6.16) | 0.13 | 1.15 (0.70-1.88) | 0.59 |
| Body mass index | | | | | | |
| 18.5-23.0 | reference | | reference | | reference | |
| 23.1-25.0 | 1.61 (1.19-2.19) | 0.002 | 1.16 (0.50-2.69) | 0.73 | 1.67 (1.03-2.70) | 0.04 |
| <18.5 | 0.25 (0.60-1.03) | 0.06 | 0.00 (0.00-5.00) | 1.00 | 0.39 (0.05-2.94) | 0.36 |
| >25.0 | 3.46 (2.65-4.52) | <0.001 | 0.55 (0.22-1.37) | 0.20 | 2.57 (1.68-3.93) | <0.001 |
| Mean arterial pressure | 1.02 (1.006-1.02) | 0.001 | 1.01 (0.98-1.04) | 0.46 | 1.00 (0.99-1.02) | 0.63 |

| | | | | | | |
|-------------------------------|-------------------|--------|-------------------|-------|--------------------|--------|
| Hemoglobin, g/dL | 0.81 (0.77-0.86) | <0.001 | 0.86 (0.71-1.03) | 0.10 | 0.83 (0.67-0.80) | <0.001 |
| LDL cholesterol, mg/dL | 1.00 (0.99-1.00) | 0.05 | 1.00 (0.99-1.01) | 0.66 | 0.10 (0.99-1.00) | 0.14 |
| HDL cholesterol, mg/dL | 0.99 (0.98-0.99) | <0.001 | 0.98 (0.95-1.01) | 0.11 | 0.98 (0.97-0.99) | <0.001 |
| TG, mg/dL | 1.00 (1.00-1.00) | 0.001 | 1.00 (0.99-1.00) | 0.36 | 1.00 (1.00-1.00) | 0.26 |
| CRP, mg/dL | 1.02 (0.99-1.04) | 0.05 | 1.03 (0.96-1.07) | 0.23 | 1.03 (1.00-1.05) | 0.03 |
| hs-TnT, pg/mL | | | | | | |
| ≤6.0 | reference | | reference | | reference | |
| >6.0-10.0 | 1.64 (1.16-2.33) | 0.005 | 1.49 (0.36-6.28) | 0.59 | 3.00 (1.35-6.69) | 0.007 |
| >10.0-16.0 | 3.50 (2.488-4.93) | <0.001 | 1.49 (0.35-7.15) | 0.54 | 7.69 (3.59-16.46) | <0.001 |
| >16.0 | 6.07 (4.38-8.42) | <0.001 | 6.46 (1.89-22.06) | 0.003 | 13.70 (6.55-28.56) | <0.001 |

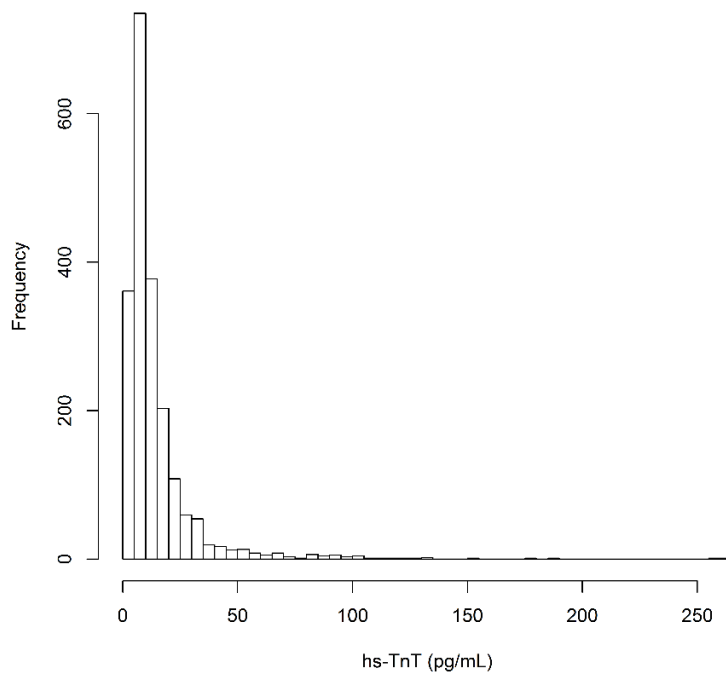
LVH, left ventricular hypertrophy; CI, confidential interval; CKD, chronic kidney disease; LDL, low-density lipoprotein; HDL, high-density lipoprotein; TG, triglyceride; hs-TnT, high-sensitivity troponin T

*All of the patients who diagnosed with systolic dysfunction had hypertension.

Figure S1. Distributions of hs-TnT in the KNOW-CKD cohort

hs-TnT, high-sensitivity cardiac troponin T; KNOW-CKD, KoreaN Cohort Study for Outcomes in Patients With Chronic Kidney Disease; eGFR, estimated glomerular filtration rate

(A) Histogram according to hs-TnT



(B) Distribution of hs-TnT according to eGFR

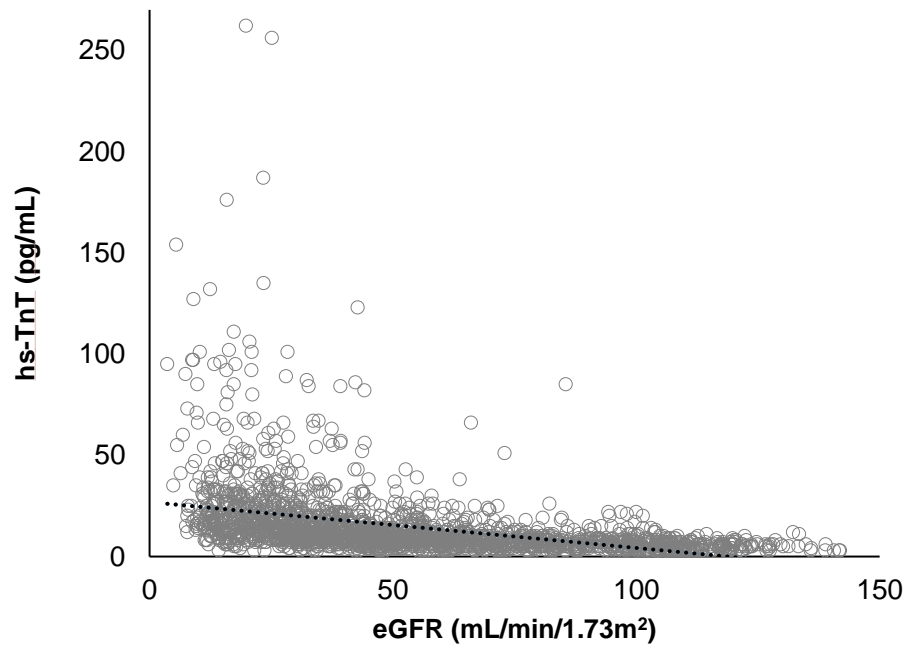
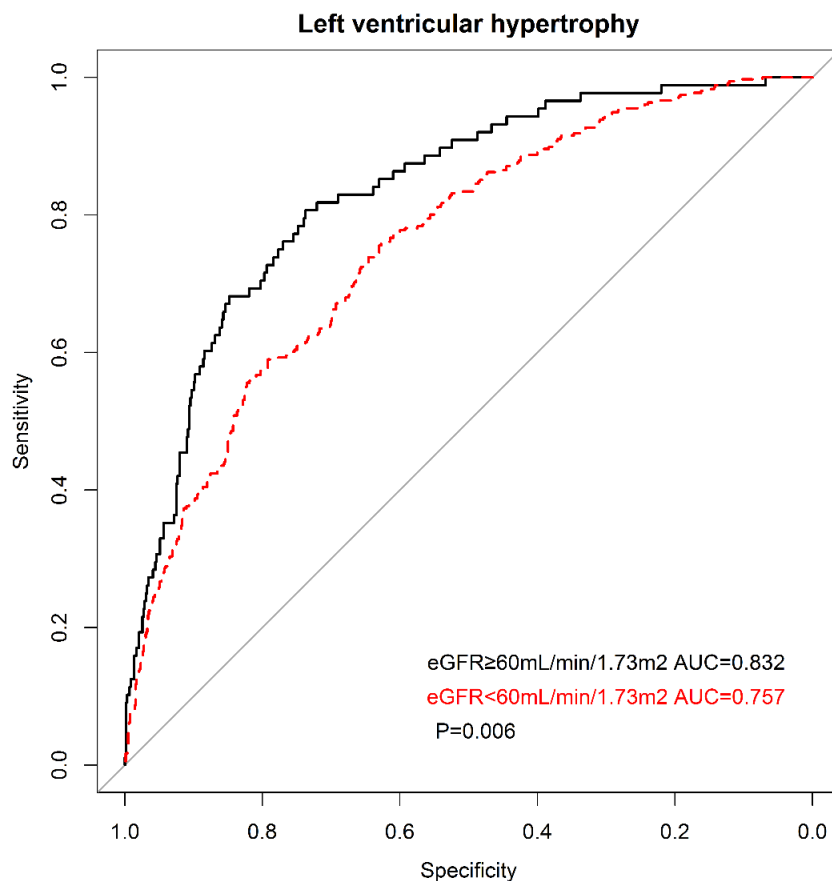


Figure S2. Receiver operating characteristic (ROC) curve and area under the curve (AUC) after adjusted co-variables according to renal function

LVH, left ventricular hypertrophy; eGFR, estimated glomerular filtration rate; CKD, chronic kidney disease; DM, diabetes; HTN, hypertension; MAP, mean arterial pressure; BMI, body mass index; HDL, high density lipoprotein; TG, triglyceride; CRP, C-reactive protein

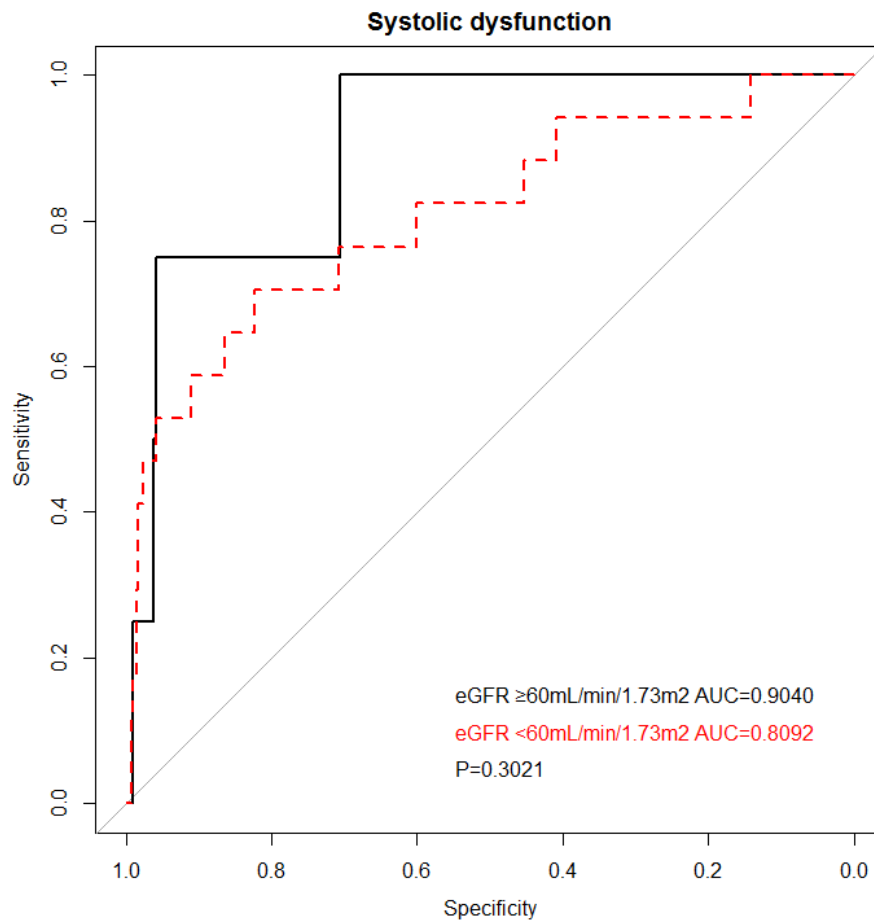
(A) LVH

Adjusted to age, sex, mean arterial pressure, DM, HTN, coronary artery disease, CKD stage, MAP, BMI, HDL, TG, hemoglobin



(B) Systolic dysfunction

Adjusted for age, sex, coronary artery disease, CKD stage



(C) Diastolic dysfunction

Adjusted to age, sex, DM, HTN, CKD stage, BMI, HDL, TG, CRP, smoking history

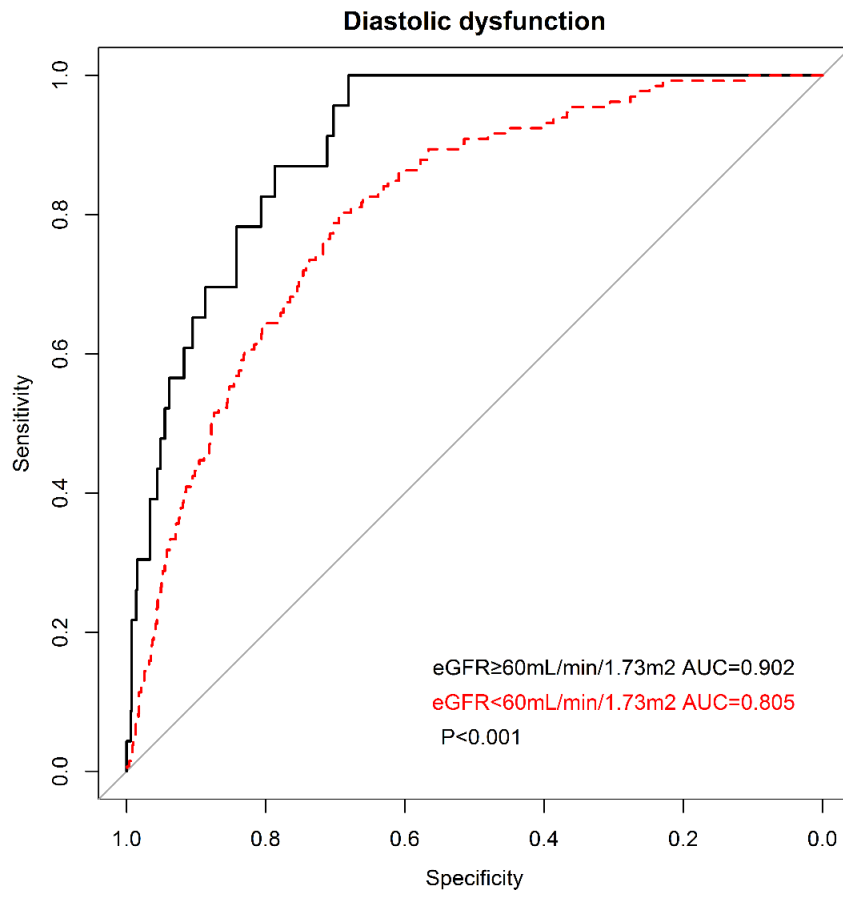


Figure S3. Elevated hs-TnT is associated with development of LVH in patients with CKD at the 4th year after enrollment

hs-TnT, high-sensitivity cardiac troponin T; LVH, left ventricular hypertrophy; CKD, chronic kidney disease

