## 🎗 QUALITY OF CARE AND OUTCOMES ASSESSMENT

# LEFT VENTRICULAR MASS INDEX PREDICTS RENAL OUTCOMES IN HIGH VASCULAR RISK MEN: A 3-YEAR FOLLOW-UP STUDY

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**Background:** The adverse effect of kidney dysfunction on cardiovascular events is well demonstrated, especially in patients with end-stage renal disease. However the impact of left ventricular mass index (LVMI) on renal outcomes is still lacking.

**Methods:** 6163 high cardiovascular risk Veterans (68±13 years, body mass index 28.7±5 Kgr/m2, 80% blacks, 30% smokers) were followed-up retrospectively for a period of 3±2.6 years. At baseline, apart from the history and clinical examination, patients underwent echocardiography and LVMI (123±42g/m2) was calculated according to the Penn convention. Furthermore, serum creatinine (sCr) at baseline (1.21±0.4mg/dL) and at the end-follow-up (1.5±1mg/dL) was determined, whereas based on the MDRD formula estimated glomerular filtration rate (eGFR) was assessed (baseline: 79±24, end-follow-up: 71±27mL/min/1.73m2). Clinic systolic/diastolic BP measurements were obtained at baseline (136±21/76±12mmHg), and the follow-up BP values were the average of the measurements within the last 6 months of follow-up (129±18/72±12mmHg). Outcomes were: 1st ≥2-fold-increase of sCr, 2nd 15≤eGFR<30 mL/min/1.73m2 and 3rd incident dialysis.

**Results:** History of coronary artery disease, chronic heart failure, diabetes mellitus, dyslipidaemia and hypertension was 23%, 13%, 34%, 61% and 83% respectively, while at end-follow-up all subjects were on optimal treatment for co-morbidities. Across the follow-up period 5.8% (n=356), 7% (n=429) and 2.7% (n=165) fulfilled the 1st, 2nd and 3rd outcome respectively. After adjustment for confounders the Cox-regression analyses revealed that LVMI predicted ≥2-fold increase of sCr [1.005 (1.002-1.007)], 15≤eGFR<30 mL/min/1.73m2 [1.008 (1.006-1.011)] and incident dialysis [1.007 (1.005-1.018)], p<0.001 for all. Each 43 gr/m2 (1SD) increase in LVMI was translated in 71.7%, 42% and 50% relative risk enhancement of the sCr, eGFR and dialysis related outcomes.

**Conclusion:** The data clearly demonstrate the powerful prediction of LVMI on doubling of sCr, retreating of eGFR across the range of 15 to 30mL/min/1.73m2 and incident dialysis in high risk subjects.