

**Abstract Type : Poster**

**Abstract Submission No. : PO-1472**

## **Cardiovascular Risk Score as a Strongly and Independently Associated with Chronic Kidney Disease Stage 2 Among Hypertensions**

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**Objectives:** Persons with hypertension had multiplex and share common CVD risk factors as increasing risk for CKD. The affected of CVD risk factors with CKD stage 3 to 5 but not stage 2 was well established. Therefore, we examined the association of CVD risk score with CKD-2 in hypertensions.

**Methods:** Among 2,150 hypertensions from 15 primary care units in Southern Thailand, 1,540 cases were eligible (CKD stage 1 or 2 = 1,404). CVD risk score was calculated based on the Framingham Heart Study-General Cardiovascular Risk Profile. Six traditional risk factors are systolic blood pressure, age, total cholesterol, HDL-C, diabetes, and smoking. Estimated glomerular filtration rate (eGFR) was calculated based on CKD-EPI equation in ml/min/1.73m<sup>2</sup>. GFR ≥90 indicated CKD-1, and GFR 60-89 with proteinuria indicated CKD-2.

**Results:** There were 4.6%, 50.1%, and 45.3% of hypertensions with low-, moderate-, and high-risk. Prevalence of CKD-2 was 60.5%. A high-risk group had highest prevalence of CKD-2 as compared with the moderate-, and low-risk groups (72.6% vs. 53.4% vs. 18.8%,  $p < 0.0001$ ). Increment risk for CKD-2 was associated with per 1 unit increased in score on CVD risk profile. Unadjusted OR was 1.19 (*Wald* 124.95 [95%CI 1.15-1.23],  $p < 0.0001$ ). Adjusted ORs in each model are as followed: model 1, by sex (*Wald* 112.91 [OR 1.19, 95%CI 1.15-1.22],  $p < 0.0001$ ); model 2, by added social determinant factors (*Wald* 54.38 [OR 1.13, 95%CI 1.09-1.17],  $p < 0.0001$ ); model 3, by added triglyceride, LDL-C, waist circumference and body mass index (*Wald* 43.32 [OR 1.13, 95%CI 1.09-1.17],  $p < 0.0001$ ); and the full model, by added hypertension medications (*Wald* 40.92 [OR 1.13, 95%CI 1.08-1.17],  $p < 0.0001$ ).

**Conclusions:** CVD risk score was a strongly and independently associated with CKD stage 2. A comprehensive risk assessment on CVD risk profile may usefully to early detected those patients who are at highly risk for developing CKD.