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Risk for Developing Cardiovascular Disease Among Hypertensive Persons with Chronic Kidney Disease and Without

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Objectives: Hypertension is a common risk of cardiovascular disease (CVD), and chronic kidney disease (CKD). Both CKD and CVD share common traditional risk factors, such as older age, systolic blood pressure, diabetes, dyslipidemia, and smoking. There were lack of knowledge on the overall CVD risk and CKD in hypertension. Therefore, we compared risk for developing CVD among hypertensions with CKD versus no CKD.

Methods: Among 2,150 hypertensions from 15 primary care units in Southern Thailand, 1,540 are eligible. Risk for developing CVD was estimated based on the Framingham Heart Study-General Cardiovascular Risk Profile. CVD risk point score was ranged from ≤-2 to ≥ 21 with estimated % of <1 to >30%. Risk level are stratified into low- (score ≤-2 to 9), moderate- (score 10-17) and high- (score ≥18) risk groups. Estimated glomerular filtration rate (eGFR) was calculated based on CKD-EPI equation, which an eGFR <60 ml/min/1.73m^2 was determined CKD.

Results: Hypertensions with CKD were more likely had higher scores on age (11.80 [95%CI 11.55 to 12.05] *vs.* 9.76 [95%CI 9.61 to 9.91], p<0.0001), SBP (3.39 [95%CI 3.21 to 3.57] *vs.* 3.13 [95%CI 3.05 to 3.21], p=0.010), and HDL-C (-0.44 [95%CI -0.59 to -0.29] *vs.* -0.63 [95%CI -0.69 to -0.56], p=0.026), compared with non-CKD. They had higher score on total CVD risk profile (18.55 [95%CI 17.97 to 18.80] *vs.* 16.13 [95%CI 15.90 to 16.35], p<0.0001; mean diff. -2.25 [95%CI -2.73 to -1.78]), and CVD risk % estimated (23.47 [95%CI 22.62 to 24.32] *vs.* 18.55 [95%CI 18.09 to 19.02], p<0.0001; mean diff. -4.92[95%CI -5.89 to -3.95]). Scores on diabetes, total cholesterol, and smoking were not significantly differences.

Conclusions: We recognize that patients with CKD are a group at high risk for developing CVD and cardiovascular events. Reduction CVD risk among those with CKD would be focused on improving blood pressure controlled, and lipid lowering.