Impact of Age on the Association Between CKD and the Risk of Future Coronary Events.

BACKGROUND: Elucidation of the relationship between age, kidney function, and absolute coronary risk would facilitate efforts to promote chronic kidney disease (CKD) as a high-risk state for future vascular events and justify current recommendations for statin treatment in CKD.

STUDY DESIGN: Population-based study.

SETTING & PARTICIPANTS: 1,268,538 people with data for estimated glomerular filtration rate and albuminuria who were treated in a single Canadian province.

PREDICTORS: CKD risk groups (G1, G2, G3a, G3b, and G4 had estimated glomerular filtration rate ≥ 90, 60-89.9, 45-59.9, 30-44.9, and 15-29.9mL/min/1.73m(2), respectively; A1, A2, and A3 had albuminuria with albumin-creatinine ratio [ACR]<30mg/g or dipstick urinalysis negative, ACR of 30-300mg/g or dipstick trace or 1+, and ACR>300mg/g or dipstick ≥ 2+, respectively) and age (<40, 40-49, ≥50 years).

OUTCOMES: Rates of coronary death or nonfatal myocardial infarction (expressed per 1,000 person-years), stratified by age, sex, and CKD stage.

MEASUREMENTS: The first available serum creatinine value and the corresponding date were set as the index serum creatinine value and index date, respectively. ACR or dipstick urinalysis data were obtained from the periods defined by 6 months before and after the index creatinine value.

RESULTS: Absolute rates of coronary death or
nonfatal myocardial infarction were consistently greater than 10 per 1,000 person-years for people with CKD and 50 years or older, regardless of CKD stage. However, absolute rates of the composite outcome were consistently less than 10 per 1,000 person-years for those younger than 50 years.

**LIMITATIONS:** Single Canadian province, median follow-up only 4.0 years.

**CONCLUSIONS:** People with CKD who are 50 years or older should be considered at the highest risk of coronary events. In contrast, consideration of other risk factors will be required when assessing future risk among people with CKD who are younger than 50 years.

DOI 10.1053/j.ajkd.2014.03.013
PubMed ID 24751168