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Abstract
BACKGROUND: Atrial fibrillation (AF) is common among patients with end-stage renal disease, but few data are available on its prevalence among adults with chronic kidney disease (CKD) of lesser severity. methods and results: We evaluated the association of CKD with ECG-detected AF among 26,917 participants in the REasons for Geographic and Racial Differences in Stroke (REGARDS) study, a population-based cohort of African-American and white US adults ≥45 years of age. Estimated glomerular filtration rate (eGFR) was calculated using the abbreviated Modification of Diet in Renal Disease study equation and albuminuria was defined as a urinary albumin to creatinine ratio ≥30 mg/g. Participants were categorized by renal function: no CKD (eGFR ≥60 mL/min/1.73 m(2) without albuminuria, n=21,081), stage 1 to 2 CKD (eGFR ≥60 mL/min/1.73 m(2) with albuminuria n=2,938), stage 3 CKD (eGFR 30 to 59 mL/min/1.73 m(2), n=2,683) and stage 4 to 5 CKD (eGFR <30 mL/min/1.73 m(2), n=215). The prevalence of AF among participants without CKD, and with stage 1 to 2, stage 3, and stage 4 to 5 CKD was 1.0%, 2.8%, 2.7% and 4.2%, respectively. Compared with participants without CKD, the age-, race-, and sex-adjusted odds ratios for prevalent AF were 2.67 (95% confidence interval, 2.04 to 3.48), 1.68 (95%

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Confidence interval, 1.26 to 2.24) and 3.52 (95% confidence interval, 1.73 to 7.15) among those with stage 1 to 2, stage 3, and stage 4 to 5 CKD. The association between CKD and prevalent AF remained statistically significant after further multivariable adjustment and was consistent across numerous subgroups.

**CONCLUSIONS:** Regardless of severity, CKD is associated with an increased prevalence of AF among US adults.

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