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CHRONIC KIDNEY DISEASE. CLINICAL EPIDEMIOLOGY - 1

FP320 INFLUENZA VACCINATION AND INCIDENCE OF CKD: EFFECT MODIFICATION BY GEOGRAPHICAL ANCESTRY

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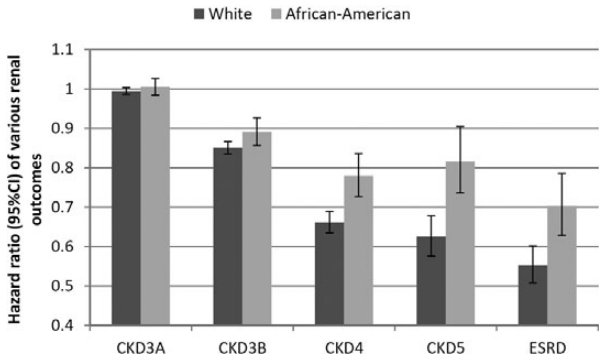
Introduction and Aims: African-American (AA) patients are disproportionately affected by CKD that may be mediated in part by inflammation and the more recently described APOL1 polymorphisms. While vaccinations should reduce infectious complications and attenuate kidney damage the benefit may not be equal for all patients such as those who may experience relatively worse outcomes due to low level inflammation caused by vaccinations. We studied whether exposure to influenza vaccinations (FLU-V) was associated with reduced renal outcomes in general and if such effects extended equally to AA patients.
Methods: In a nationally representative cohort of over 2.5 million US Veterans (n= 464,525 AA and n=2,153,393 white) with normal baseline eGFR we examined the association of exposure to FLU-V with the incidence of CKD stages 3a, 3b, 4, 5 or ESRD (initiation of renal replacement therapy or pre-emptive transplant) over a median follow-up of 7.5 years. Multivariable adjusted Cox models accounted for age, gender, baseline eGFR, comorbidities, BP and BMI, and markers of socioeconomic status, adherence with medical interventions and medication use. We examined the differential association of FLU-V with CKD incidence between AA and whites by examining them separately and by using multiplicative interaction terms.
Results: Participants' mean (SD) age was 60.3 (13.5) years, 94% were male, and the mean (SD) baseline eGFR was 84 (16) ml/min/1.73m2. Incident CKD occurred in 582,900 (CKD3a); 135,200 (CKD3b); 27,300 (CKD4); 8,606 (CKD5), and 7,006 (ESRD) patients. FLU-V was associated with overall lower risk of CKD, but compared to white patients, AA patients experienced less benefit with relatively higher incident CKD stages 4, 5 and ESRD.



The adjusted HR (95%CI) for the interaction terms representing differences in the AA vs. white relative outcomes between vaccinated and non-vaccinated patients were 1.02 (0.99-1.04), 1.02 (0.98-1.06), 1.14 (1.05-1.23), 1.30 (1.14-1.47) and 1.30 (1.13-1.48) for CKD stages 3a through ESRD, respectively.
Conclusions: FLU-V was associated with lower risk of CKD. The benefit was not experienced equally, with AA patients experiencing less benefit in renal outcomes associated with FLU-V compared to white patients. The role of inflammation, or other independent factors such as APOL1 risk alleles or other ancestral/ethnic risk factors in this association will need to be examined by future studies.