

Antihypertensives: sex differences in risk of COVID-19

In older patients receiving antihypertensives, the risk of COVID-19 infections appears to differ between sexes for various medication classes, according to study results reported in *Drugs & Aging*.

The study used data from the UK's Biobank to identify 77 221 participants, 50–86 years of age, who were tested for SARS-CoV-2 RNA between 16 March 2020 and 19 May 2021. Of the 35 892 men (46.5%), 13.4% tested positive. Cases were classified as mild (42.1%), requiring hospitalisation (52.4%) or fatal (5.5%). Of the 41 329 women, 13.7% tested positive, classified as mild (46.0%), requiring hospitalisation (50.7%) or fatal (3.3%).

Propensity score matching was performed for antihypertensive medication users and nonusers. Overall, none of the six medication classes were association with the risk of COVID-19 infection or severity. However, when analysed by sex, the risk of death associated with ACE inhibitors (ACEIs) was significantly increased for men (odds ratio [OR] 1.15; 95% CI 1.01, 1.32; $p=0.040$), and was higher than that for women (OR 0.97; 0.79, 1.19). For angiotensin-receptor blockers (ARBs), the risk of death was significantly decreased for women (OR 0.67; 0.47, 0.96; $p=0.028$), and lower than that for men (OR 1.38; 0.87, 1.78). For calcium channel blockers (CCBs), the risk of hospitalisation was significantly decreased for men (OR 0.87; 0.79, 0.96; $p=0.005$), and lower than that for women (OR 1.03; 0.86, 1.15). For both men and women, β -blockers, statins, and aspirin were not associated with COVID-19 outcomes.

"Our findings might help to allay concerns that using the six classes of medications increases the risk of SARS-CoV-2 infection", note the author. However, they add that "this study suggests sex differences in the risk of COVID-19 severity with ACEI, ARB, and CCB medications", and that "the potentially deleterious effects of routine anti-hypertensive medication treatment on COVID-19-related mortality demand further investigation; in particular, well designed and powered randomized controlled trials will be able to properly address this important issue".