KIDNEY DISEASE DOES SEX AFFECT RISK ASSOCIATIONS?

A new study published in the *British Medical Journal* reports that the risks of death and end-stage renal disease (ESRD) associated with decreased estimated glomerular filtration rate (eGFR) and increased albuminuria are at least as great in women as in men.

Previous studies have shown that the incidence of ESRD, cardiovascular risk and the risk of all-cause mortality are lower in women than in men, but whether there are differences between the sexes in the associations between eGFR and albuminuria and adverse outcomes was not known. In their study, Nitsch *et al.*, for the Chronic Kidney Disease Prognosis Consortium, aimed to determine whether sex modifies the association of eGFR and albuminuria with mortality and ESRD.

The researchers obtained data for over 2 million individuals from general population cohorts, high-risk cohorts and chronic kidney disease cohorts in Europe, North America, South America, Asia and Australasia. They found that the risks of cardiovascular mortality and all-cause mortality were higher in men than in women at all levels of eGFR and albumin-to-creatinine ratio (ACR). Decreased eGFR and increased ACR were associated with an increased risk in both sexes, but the slopes of the relationships were steeper in women than in men. “These results strongly refute the idea that lower estimated glomerular filtration rate and higher albuminuria are less important risk factors in women than in men,” state the authors.

When the researchers looked at the effect of sex on the associations between eGFR and urinary ACR and the risk of ESRD, they found no difference between the sexes.

“In stark contrast to previous assertions that kidney disease should be defined by a lower threshold for estimated glomerular filtration rate and higher threshold for urinary albumin-creatinine ratio in women, we found the association between chronic kidney disease and mortality risk to be as strong in women as in men,” conclude the researchers. “Low estimated glomerular filtration rate or albuminuria should be considered at least as potent a risk factor in women as it is in men.”

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Original article Nitsch, D. *et al.* Associations of estimated glomerular filtration rate and albuminuria with mortality and renal failure by sex: a meta-analysis. *BMJ* doi:10.1136/bmj.f324