Sex differences in kidney injury

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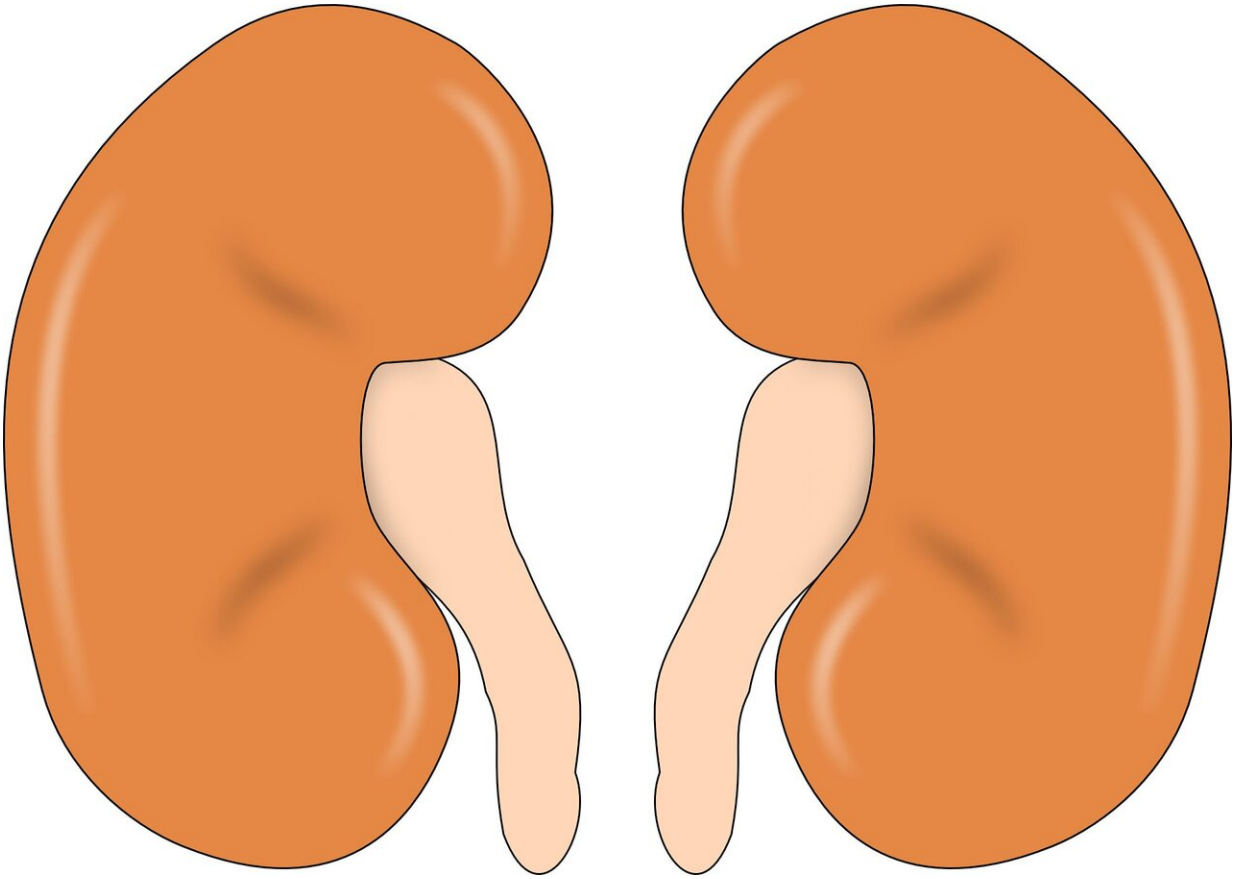

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Evidence indicates men have higher incidence of chronic kidney disease and quicker renal decline than premenopausal women. However, sex differences in the expression and activation of the EGF receptor (EGFR), which mediates progressive renal injury, are largely

unexplored.

Ming-Zhi Zhang, MD, Raymond Harris, MD, and colleagues examined EGFR expression in mice, human kidney tissue and cultured cells. The results, published in *Journal of the American Society of Nephrology*, indicated lower EGFR levels in females than males in mice and adult human kidneys.

In mice with an activated EGFR, males showed multiple types of renal injury while females showed minimal injury. Castration decreased EGFR expression in males and protected against kidney injury, while testosterone increased EGFR expression and renal injury in females.

The results indicate sex differences in susceptibility to progressive kidney injury—which may be mediated by testosterone—are in part due to differences in renal EGFR expression.

More information: Ming-Zhi Zhang et al. The Role of the EGF Receptor in Sex Differences in Kidney Injury, *Journal of the American Society of Nephrology* (2019). DOI: 10.1681/ASN.2018121244

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