Red meat consumption linked with increased risk of developing kidney failure

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A new study indicates that red meat intake may increase the risk of kidney failure in the general population, and substituting red meat with alternative sources of protein from time to time may significantly reduce this risk. The findings appear in an upcoming issue of the *Journal of the American Society of Nephrology* (*JASN*).

Increasing numbers of individuals are developing chronic kidney disease (CKD), and many progress to end-stage renal disease (ESRD), which requires dialysis or a kidney transplant. Current guidelines recommend restricting dietary protein intake to help manage CKD and slow progression to ESRD; however, there is limited evidence that overall dietary protein restriction or limiting specific food sources of protein intake may slow kidney function decline in the general population.

To examine the relationship between dietary intake of major sources of protein and kidney function, a team led by Woon-Puay Koh, MBBS (Hons), PhD (Duke-NUS Medical School and Saw Swee Hock School of Public Health in National University of Singapore) analyzed data from the Singapore Chinese Health Study, a prospective study of 63,257 Chinese adults in Singapore. This is a population where 97% of red meat intake consisted of pork. Other food sources of protein included poultry, fish/shellfish, eggs, dairy products, soy, and legumes.

After an average follow-up of 15.5 years, the researchers found that red meat intake was strongly associated with an increased risk of ESRD in a dose-dependent manner. People consuming the highest amounts (top 25%) of red meat had a 40% increased risk of developing ESRD compared with people consuming the lowest amounts (lowest 25%) No association was found with intakes of poultry, fish, eggs, or dairy products, while soy and legumes appeared to be slightly protective. Substituting one serving of red meat with other sources of protein reduced the risk of ESRD by up to 62%.

"We embarked on our study to see what advice should be given to CKD patients or to the general population worried about their kidney health regarding types or sources of protein intake," said Dr. Koh. "Our findings suggest that these individuals can still maintain protein intake but consider switching to plant-based sources; however, if they still choose to eat meat, fish/shellfish and poultry are better alternatives to red meat."

More information: "Red Meat Intake and Risk of End-Stage Renal Disease," *JASN*, DOI: 10.1681/ASN.2016030248

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