Central adiposity may affect renal hemodynamics

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Photo: U.S. Centers for Disease Control and Prevention

Regardless of body mass index, higher waist-to-hip ratio, a measure of central adiposity, is associated with lower glomerular filtration rate, lower effective renal plasma flow, and higher filtration fraction, according to research published online April 11 in *Journal of the American Society of Nephrology*.

(HealthDay)—Regardless of body mass index (BMI), higher waist-to-hip ratio (WHR), a measure of central adiposity, is associated with lower glomerular filtration rate (GFR), lower effective renal plasma flow (ERPF), and higher filtration fraction (FF), according to research published online April 11 in *Journal of the American Society of Nephrology*.

Arjan J. Kwakernaak, M.D., of University Medical Center Groningen in the Netherlands, and colleagues evaluated the association between

anthropometric (WHR and BMI) and renal hemodynamic parameters in 315 healthy adults.

According to the researchers, WHR was negatively associated with GFR and ERPF, and positively associated with FF. These findings held even after adjustment for sex, age, mean arterial pressure, and BMI, with similar results in multivariate models regardless of whether the hemodynamic measures were indexed to body surface area.

"In conclusion, a higher WHR was associated with lower GFR and ERPF, and with higher FF, in healthy persons; these are considered an unfavorable renal hemodynamic profile," the authors write. "Of note, this association was independent of BMI. These data suggest the possibility that an altered renal hemodynamic profile is involved in the long-term renal risk associated with body fat distribution, as seen in epidemiologic studies."

More information: Abstract
Full Text