협동 연구비 결과

한국인의 MDRD 공식에 의한 추정 사구체여과율에 대한 계수

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Ethnic Coefficients for Glomerular Filtration Rate Estimation by the MDRD Study Equations in Korean Population

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Background : We aimed to find the Korean ethnic coefficients for the Modification of Diet in Renal Disease (MDRD) study equations and to obtain novel proper estimation equations.

Methods : Reference glomerular filtration rate (GFR) was measured by systemic inulin clearance. Serum creatinine (SCr) values were measured by the alkaline picrate Jaffé kinetic method, then, recalibrated to isotope dilution mass spectrometry (IDMS) and to CX3 analyzer.

Results : The Korean coefficients for the 4 and 6 variable MDRD and IDMS MDRD study equations based on the SCr recalibrated to CX3 and to IDMS were 0.73989/ 0.74254 and 0.99096/ 0.9554, respectively. Coefficients for the 4 and 6 variable MDRD equations based on the measured SCr were 1.09825 and 1.04334, respectively. The modified equations showed a better slope and accuracy, less bias. The novel 4 variable equations for Korean based on the SCr measured and recalibrated to IDMS were 107.904×SCr−1.009×age−0.02×0.667 (if woman) and 87.832×SCr−0.882×age 0.01×0.653 (if woman), respectively.

Conclusion : Modified estimations of the MDRD and IDMS MDRD study equations with ethnic coefficients and the novel equations improved the performance of GFR estimation for the overall renal function.

Key Words : 계수, 이눌린 청소율, MDRD 공식
Coefficient, Inulin clearance, Modification of diet in renal