

## 한국의 젊은 성인 남성에서 혈청 시스타틴 C와 혈청 크레아티닌 각각에 근거한 사구체 여과율의 비교

국군양주병원 내과

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### Glomerular Filtration Rate by Cystatin C-Based Prediction Equations Compared with Serum Creatinine Based GFR in Healthy Young Korean Men

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**Background :** In recent years, cystatin C (CysC) was proposed as a new marker for the glomerular filtration rate (GFR) due to a constant serum level. One limitation of using CysC as a GFR marker is that there is no version formula transforming CysC expressed as mg/dL to GFR expressed as mL/min in healthy young Korean men. The present study analyzes whether creatinine based GFR prediction equations might be replaced by simple prediction equations based on plasma concentrations of CysC in healthy young Korean men.

**Methods :** We studied 145 apparently healthy young Korean men aged 19–29 years who visited The Armed Forces Yangju Hospital (Gyeonggi Province, Korea) for health check from November 2008 to January 2009. Creatinine-based GFR was estimated by the formula of modified MDRD, Cockcroft Gault (CG). CysC-based GFR was estimated by the formula of Larsson, Hoek, Filler, Grubb, Le Bricon, Orebro-cyst (DAKO), Orebro-cyst (Gentian). We used Pearson's correlation coefficient to evaluate the relationship between the parameters. Linear regression analysis was performed to evaluate correlations between GFR estimating formulae based upon serum CysC with serum creatinine.

**Results :** Among CysC based GFR, Hoek's GFR ( $102 \pm 12$  mL/min/1.73m<sup>2</sup>, range 78–140) is most similar with CG GFR ( $105 \pm 14$ , 62–130) and abbreviated MDRD GFR ( $97 \pm 14$ , 62–130). CysC correlated significantly with CG GFR and abbreviated MDRD GFR. And serum creatinine significantly with CysC based GFR. Significant correlations were noted between CysC based GFR and creatinine based GFR.

**Conclusion :** Creatinine based GFR prediction equations (i.e. CG and abbreviated MDRD GFR equation) for healthy young Korean men might be replaced by simple prediction equations based on plasma concentrations of CysC (especially Hoek' equation).

**Key Words :** 시스타틴 C, 크레아티닌, 사구체 여과율  
Cystatin C, Creatinine, Glomerular filtration rate