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Age and Gender Associated Changes in Cystatin C and β 2 -Microglobulin

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Abstract: Assessment of renal function in clinical medicine is of great importance. Various studies report that cystatin C (cysC) and β 2 -microglobulin are valuable markers of renal function. In this study, serum cysC and β 2 -microglobulin were measured in parallel with serum creatinine in a healthy population, and the characteristics of the relationship of cysC and β 2 -microglobulin to age and gender were compared. Serum creatinine, cysC and b2-microglobulin were measured in 119 (86 female; 33 male, 6 to 69 years old) healthy subjects. They were divided into five different age groups: group 1 (6-15 years, n = 10), group 2 (16-30 years, n = 34), group 3 (31-45 years, n = 34), group 4 (46-60 years, n = 29) and group 5 (>61 years, n = 12). Serum creatinine did not differ among groups and was not correlated with age. Creatinine values were significantly different (p = 0.004) between males and females. CysC values differed neither by gender nor by age in the groups. However, cysC exhibited a positive correlation with age (r = 0.212, p = 0.021). β 2 -microglobulin levels showed a significant difference between groups (p = 0.036). There was a positive correlation between serum β 2 -microglobulin and age (r = 0.188, p = 0.041). In conclusion, serum cysC and β 2 -microglobulin levels in healthy individuals increase with ageing, consistent with the decrease in GFR.

Key Words: Cystatin C, β 2 -microglobulin, glomerular filtration rate, ageing

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