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Can Cystatin C be used as a Marker of Microalbuminuria?

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Letter to the Editor

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Cystatin C is now widely used for the assessment of glomerular filtration rate in clinical practice (1,2). As microalbuminuria is the first sign of renal involvement in diabetes, the correlation of cystatin C with microalbuminuria is an important factor in deciding on the usefulness of this test for diabetic patients. At the same time, microalbuminuria is an early sign that appears before glumerular filtration rate (GFR) deteriorates (3).

In order to evaluate the correlation between serum cystatin C and microalbuminuria we measured the serum cystatin C and microalbuminuria levels of 64 type II diabetic patients. Cystatin C levels were elevated (greater than 1.7 mg/l) in 25 (92.59%) of the 27 microalbuminuric patients (Mean ± SD = 2.29 ± 0.43 mg/l) but in only 5 (13.51%) of the 37 non-microalbuminuric patients (Mean ± SD 1.04 ± 0.47 mg/l) ($t = 10.886$; $p<0.0001$). The sensitivity and specifity of cystatin C in detecting microalbuminuria was calculated to be 92.59% and 83.33% respectively. These results can be interpreted in favor of using cystatin C as a marker of microalbuminuria. Nevertheless, some factors, such as the glycemic control status of the patients, concomitant diseases, and drug therapy, may have affected the microalbuminuria as well. Unfortunately, it was not possible to eliminate these factors in this study. Hence, these findings need to be verified in a more standardized setting with respect to physical activity level, diabetic control, concomitant illnesses, and drug therapy in order to reveal microalbuminuria due to solely diabetic nephropathy.

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