

Cystatin C in patients with coronary artery disease

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Abstract

Statement of the Problem: Cystatin C, first and foremost known as a marker of renal function and considered a better marker of glomerular filtration rate (GFR) than serum creatinine, has been suggested as a possible independent biomarker of cardiovascular disease (CVD). The purpose of this study is to assess the relation between level of serum Cystatin C and severity of coronary artery disease (CAD) in patients without chronic kidney disease (CKD). Methodology & Theoretical Orientation: In this cross-sectional study, we included 80 patients with CAD divided in two groups (group I with acute coronary artery disease and group II with chronic stable coronary artery disease) 40 patients each and acquired their demographic characteristics, medical histories, and listings of the concurrent medications they were taking. All patients with CAD underwent ECG, echocardiography, coronary angiography, serum Cystatin C level, cardiac enzymes, and other routine laboratory tests.

Findings: As regard demographic data and comorbidities there was no significant difference between the two groups as regard gender, diabetes mellitus, hypertension, or smoking.

Also, as regard level of serum Cystatin C, the mean and SD in 1 vessel affection was 0.92 ± 0.07 while in 2 vessels affection was 1.07 ± 0.13 and 3 vessels affection was 1.41 ± 0.05 with ($P < 0.01$).

Finally, there was a highly significant difference as regard Cystatin C level with mean and SD 1.21 ± 0.18 in ST-segment elevation MI while mean and SD was 0.96 ± 0.09 in Non ST-segment MI or unstable angina with ($P < 0.01$).

There was a statistically significant correlation between level of Cystatin C and severity of CAD ($p < 0.05$).

Conclusion & Significance: Serum cystatin C has a significant effect on the severity of coronary artery disease (CAD), being higher in patients with 3 vessels disease and severe CAD.

Biography:

Mohamed Wasfy has his expertise in evaluation and passion in improving the health and wellbeing. His open and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare. He is a cardiology specialist from Shebin El-Kom teaching hospital and post-graduate studies from Menoufia University School of Medicine. It is the first paper to publish and wish for more.

Speaker Publications:

- 1.Koenig W, Twardella D, Brenner H, Rothenbacher D. Plasma concentrations of cystatin C in patients with coronary heart disease and risk for secondary cardiovascular events: more than simply a marker of glomerular filtration rate. Clin Chem 2005; 51:321-7.
- 2.Shah N, Soon K, Wong C, Kelly A-M. Screening for asymptomatic coronary heart disease in the young "at risk" population: Who and how? International Journal of Cardiology Heart & Vasculature. 2015; 6:60-65.
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- 4.Zhao R, Li Y, Dai W. Serum Cystatin C and the Risk of Coronary Heart Disease in Ethnic Chinese Patients with Normal Renal Function. Lab Med. 2016 Feb;47(1):13-9.
- 5.Qing X, Furong W, Yunxia L, Jian Z, Xuping W, Ling G. Cystatin C and asymptomatic coronary artery disease in patients with metabolic syndrome and normal glomerular filtration rate. Cardiovascular Diabetology. 2012; 11:108.
- 6.Mahalle N, Garg MK, Naik SS, Kulkarni MV. Association of metabolic syndrome with severity of coronary artery disease. Indian Journal of Endocrinology and Metabolism. 2014;18(5):708-714. doi:10.4103/2230-8210.139238.
- 7.Lodh M, Parida A, Sanyal J, Ganguly A. Cystatin C in Acute Coronary Syndrome. EJJFCC. 2013;24(2):61-67.

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