

## Serum Indoxyl Sulfate as a Potential Independent Biomarker of Arterial Stiffness in Patients with Coronary Artery Disease

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Indoxyl sulfate (IS) is a low molecular weight metabolite and a uremic toxin which induces oxidative stress in myocardial, vascular smooth muscle cells, vascular endothelial cells and also involves in cardiovascular (CV) diseases. Therefore, we investigated the association between serum IS levels and aortic stiffness in coronary artery disease (CAD) patients. A total of 144 CAD patients were recruited. Carotid-femoral pulse wave velocity (cfPWV) was measured by the SphygmoCor system and the value over 10 m/s was classified as the arterial stiffness group. Serum IS levels were determined by liquid chromatography-mass spectrometry. Fifty patients (34.7%) had arterial stiffness and higher percentages with diabetes, elderly, higher systolic blood pressure, blood urea nitrogen, creatinine, serum IS level, lower estimated glomerular filtration rate compared with the control group. After adjustment of the factors by multivariable logistic regression analysis, the serum IS levels revealed significantly correlated with arterial stiffness (odds ratio = 3.834, P = 0.031), and has potential to be an independent predictor of arterial stiffness in CAD patients. In addition, the serum IS levels ( $\beta = 0.167$ , adjusted R<sup>2</sup> change: 0.026, P = 0.027) were significantly positively correlated with cfPWV values in CAD patients in multivariable forward stepwise linear regression analysis. Our results suggest that serum IS has potential as an independent biomarker for aortic stiffness in CAD patients.