

## Risk Factors for Metabolic Syndrome Independently Predict Arterial Stiffness in Patients with Chronic Kidney Disease

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**Background:** Metabolic syndrome (MS) is common in patients with chronic kidney disease (CKD), but its contribution to arterial stiffness in CKD is not well defined. This study was aimed to examine the association between risk factors for MS and arterial stiffness in patients with CKD.

**Methods:** Risk factors for MS and brachial-ankle pulse wave velocity (baPWV) as measures of arterial stiffness were assessed in 1,256 CKD patients (52.8±12.4 years and 60.4% men).

**Results:** baPWV was 1515±327 cm/s. The prevalence of MS was 57.2%. In multivariate logistic regression models after adjustment for age, sex, body mass index, renal function, smoking, comorbid conditions, components of chronic kidney disease and bone disorder, and medication. MS (odds ratio [OR] 1.444, 95% confidence interval [CI] 1.008-2.069, p=0.045) and increasing number of its risk factors (OR 1.239, 95% CI 1.060-1.448, p=0.007) was independent determinants of baPWV. In risk factors for MS, systolic blood pressure (SBP) (OR 2.877, 95% CI 1.949-4.249, p<0.001) and fasting plasma glucose (FBS) (OR 1.423, 95% CI 1.004-2.015, p=0.047) showed stronger association with baPWV compared to other risk factors.

**Conclusion:** MS and the number of its risk factors is an important determinant of arterial stiffness in CKD patients irrespective of the degree of renal impairment. SBP and FBS were major determinant of arterial stiffness in patients with CKD.

**Key Words:** PWV, MS, Arterial stiffness