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# 1,25-dihydroxyvitamin D deficiency is an independent predictor of cardiac valve calcification in patients with chronic kidney disease

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**Objectives:** Cardiac valve calcification is highly prevalent in patients with chronic kidney disease (CKD). Low vitamin D level is known to be associated with vascular calcification in CKD. However, the association of vitamin D with cardiac valve calcification is unknown. We hypothesized that serum 1,25 dihydroxyvitamin D [1,25$(OH)_2$D], an active form of vitamin D, is an independent predictor of cardiac valve calcification in patients with CKD.

**Methods:** A total of 513 patients with pre-dialysis CKD were included in this cross-sectional study. Aortic valve calcification (AVC) and mitral valve calcification (MVC) were assessed using two-dimensional echocardiography. The associations of AVC and MVC with baseline variables were investigated by logistic regression analyses.

**Results:** In multivariable analysis, serum 1,25$(OH)_2$D level was an independent predictor of AVC (odds ratio [OR]: 0.87, $P < 0.001$) and MVC (OR: 0.92, $P < 0.001$). Besides, age, diabetes, coronary heart disease, calcium × phosphate product, intact parathyroid hormone were independent predictors of AVC and MVC. Systolic blood pressure was an independent predictor of the only AVC. Receiver-operating characteristic (ROC) curve analysis showed that the best cutoff values of serum 1,25$(OH)_2$D level for predicting AVC and MVC were ≤ 12.5 and ≤ 11.9 pg/dl, respectively.

**Conclusions:** Serum 1,25$(OH)_2$D deficiency were independent predictors of AVC and MVC in patients with CKD. ROC curve analysis suggested that serum 1,25$(OH)_2$D could be a potential biomarker of AVC and MVC in these patients.