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Baroreflex dysfunction in chronic kidney disease

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**Abstract**

Chronic kidney disease (CKD) patients have high cardiovascular mortality and morbidity. The presence of traditional and CKD related risk factors results in exaggerated vascular calcification in these patients. Vascular calcification is associated with reduced large arterial compliance and thus impaired baroreflex sensitivity resulting in augmented blood pressure variability and hampered blood pressure regulation. Baroreflex plays a vital role in short term regulation of blood pressure. This review discusses the normal baroreflex physiology, methods to assess baroreflex function, its determinants along with the prognostic significance of assessing baroreflex sensitivity in CKD patients, available literature on baroreflex sensitivity in CKD patients and the probable patho-physiology of baroreflex dysfunction in CKD.

**Key words:** Chronic kidney disease; Vascular calcification; Large arterial compliance; Baroreflex sensitivity; Blood pressure variability

**Core tip:** Cardiovascular dysfunction is an important complication and risk factor of mortality and morbidity in chronic kidney disease (CKD). Baroreflex is a functional

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