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Renin-angiotensin-aldosterone gene polymorphisms in chronic kidney diseases.

Rizki Fajar Utami
Department of Biochemistry, Islamic University of Indonesia, Indonesia

Objectives: The renin-angiotensin-aldosterone system (RAAS) plays an important role in the pathogenesis of hypertension as well as cardiovascular diseases and chronic kidney diseases (CKD). Among the most frequently studied RAAS gene polymorphisms are the angiotensin-converting enzyme, angiotensinogen, angiotensin II receptor type 1 and CYP11B2 gene polymorphisms. This review was aimed to explore the relationship between polymorphisms of RAAS gene with CKD

Methods: We conducted a PubMed search using search terms including ("Renin Angiotensin Aldosterone" or RAAS") and ("polymorphism") and ("chronic kidney diseases"). No language restrictions were applied.

Results: A total of 36 then selected by title and abstract, 11 studies were included in the analyses of the association between RAAS gene ACE, AGT, AT1R and CYP11B2 polymorphisms and CKD. Genetic variants of RAAS gene ACE insertion/deletion (rs4362), -A235G, AGT -A20C (M235T), Thr207Met, AT1R A1166C, C573T, CYP11B2 -344C>T polymorphisms showed associated with CKD. Genetic variants of RAAS gene CYP11B2 rs3802230, rs4543 and rs4544 polymorphisms showed no relationship with CKD.

Conclusions: The results of this review suggest that the RAAS gene ACE, AGT, AT1R, and CYP11B2 polymorphisms associated with the progression of CKD.