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Ankle-Brachial Index is a predictor of the risk of renal outcome and mortality

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Objectives: The clinical implications of ankle-brachial index (ABI) are well established the risk factor of cardiovascular morbidity and mortality. Nevertheless, the relationship between ABI and renal outcomes remains unresolved in a Korean population.

Methods: A total of 9,005 patients who measured ankle-brachial index (ABI) in outpatient clinics were included in the study. Patients were divided into the normal group (0.9–1.2) and the low group (< 0.9) of ABI value. The hazard ratios (HRs) of renal composite outcome (i.e., doubling of creatinine levels, a 50% or more decrease of the estimated glomerular filtration rate, or development of end-stage renal disease), and all-cause mortality were calculated after adjustment of multiple variables.

Results: During the median follow-up period of 7 years (maximum 12 years), the events of end-stage renal disease and mortality occurred in 215 and 1,187 patients, respectively. The low ABI group had a higher risk of renal composite outcome than the normal ABI group (HR, 3.26 [2.62–4.06]; $P < 0.001$). The risk of all-cause mortality was higher in the low group than the normal group (HR, 4.65 [3.97–5.43]; $P < 0.001$).

Conclusions: The measurement of ABI may be needed to predict the risk of renal progression and mortality.