

INCREASED RISK OF PERIPHERAL ARTERIAL DISEASE WITH INCREASING ALBUMIN/CREATINE RATIO AND DECREASED GFR

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Peripheral arterial disease is clearly a marker for cardiovascular disease. Microalbuminuria is also an independent predictor of cardiovascular disease and in combination with a decreased GFR may multiply the risk of cardiovascular disease. The purpose of this study was to determine the added risk of cardiovascular disease in United States adults with decreased GFR and microalbuminuria. Peripheral arterial disease (PAD) was determined using NHANES ankle-brachial criteria. eGFR was calculated using the abbreviated Modification of Diet in Renal Disease Study formula based on serum creatinine, age, and race. eGFR was partitioned into four categories (90+, 60-89, 30-59, and 15-29). Subjects with an eGFR < 15 were excluded from this analysis. Microalbuminuria was defined as a urinary albumin-to-creatinine ratio (ACR) of 30 to < 300 mg/g. An ACR ≥ 300 mg/g was defined as macroalbuminuria. All analyses were compared to the reference group of U.S. adults with a normal ACR and eGFR of 90+.

Table 1. PAD Prevalence (%), Bivariate Odds Ratio

eGFR	ACR		
	None	Micro	Macro
90+	2.5%, Reference	9.8%, 4.19	17.2%, 8.01
60-89	4.9%, 2.00	10.3%, 4.44	17.9%, 8.43
30-59	14.3%, 6.43	21.9%, 10.8	32.5%, 18.6
15-29	54.6%, 44.5	28.3%, 15.2	25.3%, 13.1

The prevalence of PAD in U.S. adults increases with decreased eGFR from 3.3% in U.S. adults with an eGFR of 90+ to 41.1% in U.S. Adults with eGFR of 15.-29. Microalbuminuria or macroalbuminuria in an adult with an eGFR of 90+ increases the odds of having PAD by at least four and as much as 18. Microalbuminuria and a decreasing eGFR significantly add to the risk of PAD.