

Estimated pulse wave velocity and albuminuria in chronic renal disease patients

Vaia D.Raikou PhD

Dpt of Nephrology, DOCTORS' Hospital, Athens, GREECE.

Abstract

Background and Aims: In chronic kidney disease (CKD) elevated pulse wave velocity was associated with renal micro-vascular damage. In this study we aimed to address the association between estimated pulse wave velocity (ePWV) and classified albuminuria in pre-dialysis chronic kidney disease patients.

Methods and Results: Two hundred thirty-two subjects on mean age 68.5 ± 15.03 years old were enclosed. Our participants were classified in both estimated glomerular filtration rate (eGFR) and albuminuria categories according to the Kidney Disease Improving Global Outcomes 2012 criteria. ePWV was calculated using an equation from age and mean blood pressure (MBP). High density lipoprotein cholesterol (HDL-C), triglycerides, waist circumference and uric acid were measured. X² tests and an adjusted model were applied to investigate the ePWV association with albuminuria entering covariates. We divided the patients in two groups according to mean ePWV value. The patients with a high ePWV had significantly higher uric acid levels and albuminuria, but significantly lower eGFR and HDL-C than the patients with a lower ePWV. X² tests showed significant association between high ePWV and classified albuminuria, classified eGFR and diabetes mellitus ($\chi^2=18.7$, $p=0.001$, $\chi^2=62.2$, $p=0.001$ and $\chi^2=8.6$, $p=0.003$ respectively). The adjusted model showed the ePWV value to remain a significant independent risk factor for the occurrence of albuminuria controlling for diabetes mellitus and eGFR less than 60ml/min/1.73m², even though these both variables were proved excessively significant for manifested albuminuria.

Conclusion: Our findings suggest a significant association between ePWV and moderate / severe albuminuria in patients on pre-dialysis chronic renal disease.

Biography:

Dr. Vaia D Raikou is a Head of the Department of Nephrology in Private Hospital of Athens named Doctors Hospital and she also is a researcher in National and Kapodistrian University of Athens. She graduated from Aristotelio University of Thessaloniki in Greece, School of Medicine, trained in Nephrology at Clinical Hospital Panagia in Thessaloniki, at Laiko Hospital in Athens and at Hammersmith Hospital in London. She is a member of

European Association of Nephrology and of Hellenic Society of Nephrology. Her clinical and research interests are in field of Clinical Nephrology, Hemodialysis, Peritoneal Dialysis, Hypertension, Metabolic Disorders. She has research experience in Nephrology with a number of publications in International journals. Also, she is an invited author in 2 international Books and more than 2 journals and she is speaker at local and national professional meetings.

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