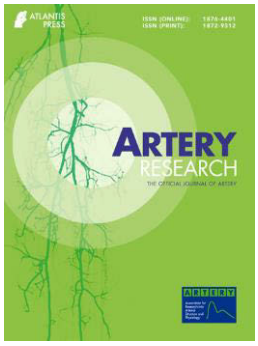

Artery Research

ISSN (Online): 1876-4401 ISSN (Print): 1872-9312
Journal Home Page: https://www.atlantis-press.com/journals/artres

P109: PROGRESSION OF AORTIC ARCH CALCIFICATION AFTER KIDNEY TRANSPLANT AND ITS IMPORTANCE IN PREDICTING CARDIOVASCULAR RISK: SINGLE-CENTER 2-YEAR FOLLOW-UP STUDY

Agne Laucyte-Cibulskiene, Evelina Boreikaite, Gediminas Aucina, Migle Gudynaite, Ilona Rudminiene, Sigita Anisko, Loreta Vareikiene, Liutauras Gumbys, Nerijus Teresius, Dileta Valanciene, Ligita Ryliskyte, Laurynas Rimsevicius, Marius Miglinas, Kestutis S

To cite this article: Agne Laucyte-Cibulskiene, Evelina Boreikaite, Gediminas Aucina, Migle Gudynaite, Ilona Rudminiene, Sigita Anisko, Loreta Vareikiene, Liutauras Gumbys, Nerijus Teresius, Dileta Valanciene, Ligita Ryliskyte, Laurynas Rimsevicius, Marius Miglinas, Kestutis S (2017) P109: PROGRESSION OF AORTIC ARCH CALCIFICATION AFTER KIDNEY TRANSPLANT AND ITS IMPORTANCE IN PREDICTING CARDIOVASCULAR RISK: SINGLE-CENTER 2-YEAR FOLLOW-UP STUDY, Artery Research 20:C, 91–92, DOI: https://doi.org/10.1016/j.artres.2017.10.140

To link to this article: https://doi.org/10.1016/j.artres.2017.10.140

Published online: 7 December 2019

Conclusion: Oscillometric measurement of 24-hour pulse wave velocity is a simple and valid method and has an additional predictive value for all-cause mortality in elderly patients with end-stage renal disease.

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P108
IMPACT OF KIDNEY TRANSPLANTATION ON AORTIC STIFFNESS INDEX β0

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Purpose/ Background/ Objectives: We have shown that aortic stiffness improves as early as 3 months post-kidney transplantation (KTx). Aortic stiffness index β0, a blood pressure independent parameter, has been proposed to be a better indicator of vascular wall property. This study was designed to examine 1) the early versus late changes in aortic stiffness index β0 and 2) to define the characteristics of patients with favourable and unfavourable trajectories of aortic stiffness index β0 after KTx.

Methods: In 79 patients who underwent KTx, aortic stiffness was assessed before, 3, 6 and 24 months after KTx. Aortic stiffness was determined by carotid-femoral pulse wave velocity (cf-PWV), while aortic stiffness index β0 was obtained using a formulae proposed by Spronck and colleagues. Cytokines profile was measured in plasma by ELISA.

Results: There was a reduction of β0 3 months after KTx (29.0 ± 2.0 to 25.8 ± 1.2, $P = 0.033$). Then, aortic stiffness index β0 gradually increased at 6 (28.0 ± 1.4, $P = 0.005$ vs 3 months) and 24 months (28.3 ± 1.3, $P = 0.003$ vs 3 months). Unfavourable progression of β0 was not related to renal function, age, comorbidities or kidney donor characteristics. However, the unfavourable progression of β0 was associated with higher levels of interleukin-6 ($P = 0.029$).

Conclusions: The improvement of aortic stiffness index β0 3 months after KTx suggests that KTx leads to an early improvement of the intrinsic mechanical properties of aorta.

However, this improvement is followed by a late progression of β0, which is associated with increased pro-inflammatory cytokine, suggesting that activation of immune system may be involved in arterial wall remodeling in kidney transplant recipients.

P109
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Agne Laucyte-Cibulskiene [1], Evelina Boreikaite [2], Gediminas Aucina [2], Migle Gudynaite [1], Ilona Rudminiene [1], Sigita Anisko [1], Loreta Vareikiene [1], Liutauras Gumbys [3], Nerijus Teresius [3], Dileta Valanciene [3], Ligita Ryliskyte [4], Laurynas Rimsevicius [1], Marius Miglinas [1], Kestutis Strupas [5]

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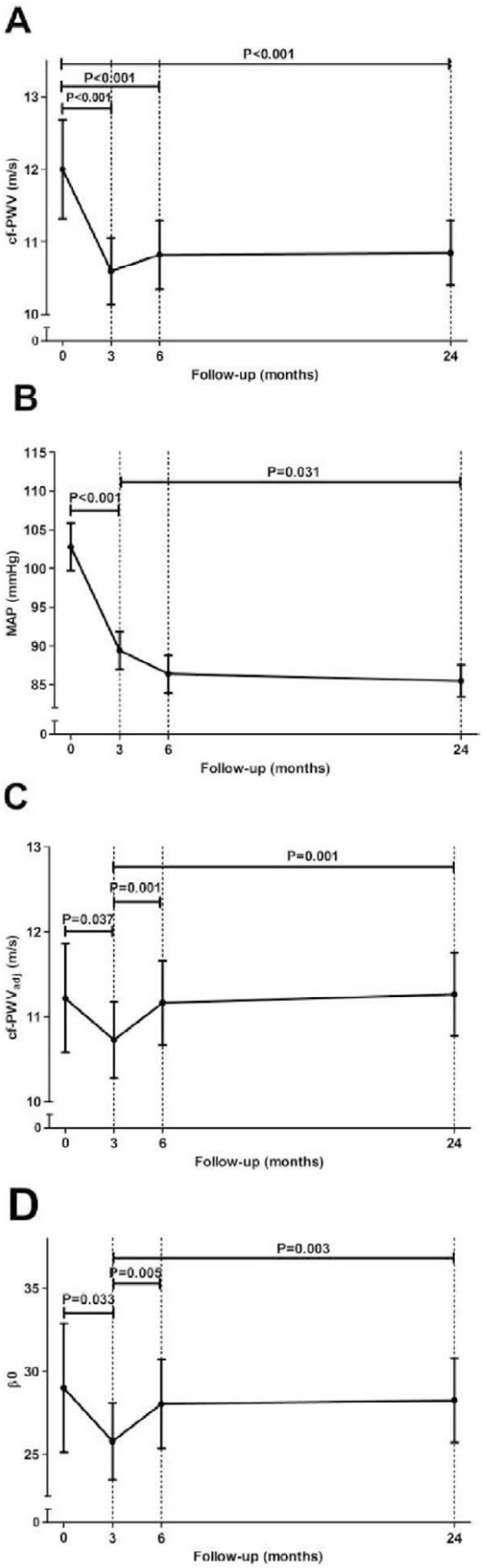

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Table 1. Mean values of CAVI.

eGFR	Men						Women					
	40—5	p	45—0	p	50—5	p	50—5	p	55—0	P	60—5	p
<60	5,80	0,159	8,58	0,610	7,74	0,150	7,70	0,948	6,34	0,172	7,33	0,068
60—90	6,63		7,80		7,71		7,54		7,73		8,23	
>90	7,17		7,67		8,32		7,49		7,78		7,92	

Vascular calcification (VC) is linked to post-transplant cardiovascular events in the long term. We aimed to evaluate whether pretransplant chest X-ray based aortic arch calcification (AoAC) or pulse wave velocity measurement can better predict post- transplant cardiovascular or cerebrovascular events, and to assess the progression of calcification within 2 years.

Methods: Our single-center observational longitudinal study enrolled 40 kidney transplant recipients (KTR) without previous history of vascular events (no cardiovascular, cerebrovascular events, no peripheral artery disease). Two radiologists evaluated pretransplant and postransplant (after 2 years) AoAC on chest X-ray by using two different AoAC scales: AoAC grade evaluation [1] and AoAC score as suggested by Ogawa et al. in 2009 [2]. Cohen's kappa coefficient was 0.75. The mismatching results were repeatedly reviewed and resulted in consensus. Carotid-femoral (cfPWV) and carotid-radial pulse wave velocity (crPWV) was measured using applanation tonometry and the PWV ratio (cfPWV/rPWV) was calculated. Patient clinical, biochemical data and cardiovascular/cerebrovascular event rate were monitored within 2 years.

Results: During 2-year follow-up 5 patients experienced cardiovascular events, which were predicted by PWV ratio, but not related to AoAC. In 3 patients, we observed progression of AoAC, in others — AoAC was less evident or remained unchanged in 2-years follow-up. AoAC score [2] could better describe the extent of vascular calcification in KTR.

Conclusions: KTR without previous vascular events have quite low cardiovascular/ cerebrovascular event rate within 2-year follow-up, which are better predicted by pretransplant PWV ratio. AoAC postransplant regression is evident even when using simplified chest X- ray scales.

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P110
DIFFERENCES IN ARTERIAL STIFFNESS MEASURED BY CARDIO-ANKLE VASCULAR INDEX IN PATIENTS WITH NORMAL AND DECREASED RENAL FUNCTION

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Background: Arterial stiffness (AS) is a highly prognostic risk factor of cardiovascular diseases. The aim of this study was to investigate the relationships between cardio-ankle vascular index (CAVI) and eGFR in patients under the risk of cardiovascular disease.

Methods: This was a retrospective study of Lithuania High cardiovascular risk patients' database. Demographic, renal function and AS data was gathered. Patients were divided into groups by gender and age by intervals of 5 years. Mean values of CAVI were further investigated according to the patients' eGFR. ANOVA was used to compare mean values of CAVI.

Results: This study included data of 2070 patients aged from 40 to 65 years. The mean eGFR of the patients was 100.13 ml/min/1.73m^2, 58.7% were women. The increase in CAVI was observed with age in overall population, with mean values in different age groups of 6.55 ± 1.28, 7.13 ± 1.84, 7.71 ± 1.92, 7.79 ± 1.95, 7.73 ± 1.98, 8.06 ± 1.79, $p < 0.001$. Calculation of the mean CAVI in different age and gender groups of eGFR are presented in Table 1. Further comparison of mean values of CAVI did not yield statistically significant results.

Conclusions: Arterial stiffness increases with age in overall population. There was no statistically significant difference between mean values of CAVI in groups divided by age and gender according to eGFR.

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P111
ASSOCIATION AND CLINICAL RELEVANCE OF ABSENCE OF LOWER LIMB ARTERIAL PULSE AND CORONARY ARTERY DISEASE IN HEMODIALYSIS PATIENTS

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Objectives: To determine the association between PAD and DAC in patients treated by haemodialysis in the waiting list for renal transplantation and to assert the influence of that association on prognosis and clinical management.

Methods: 1246 renal transplant candidates underwent coronary angiography. Peripheral artery disease was defined as either absence of pulse in the lower limb or a history of gangrene, amputation, or vascular intervention.

Results: The prevalence of peripheral artery disease and coronary artery disease were 34% and 52%, respectively. The association of peripheral artery disease with coronary artery disease was significant (68% versus 32%, OR = 2.60, 95% CI 2.03—3.32, P = .0001). The specificity, sensitivity, positive predictive value, and negative predictive value were 77%, 44%, 67%, and 56%, respectively. Peripheral artery disease predicted the indication of coronary intervention. Patients lacking peripheral artery disease and coronary artery disease enjoyed higher event-free survival. Peripheral artery disease and coronary artery disease together did not add to the very high cardiovascular risk associated with each isolated condition. Death by any cause was influenced by peripheral artery disease independently of coronary artery disease.

Conclusions: A safe and inexpensive clinical method was useful to assess the association between PAD and CAD and may be useful to select patients for invasive studies. PAD was equivalent to CAD as a predictor of cardiovascular prognosis. Combining coronary and PAD evaluation helps to assess the prognosis of patients with CKD with reasonable accuracy.

P112
CENTRAL PULSE WAVE PARAMETERS ARE ASSOCIATED WITH VALVE CALCIFICATION IN PATIENTS WITH END-STAGE RENAL DISEASE ON MAINTENANCE HEMODIALYSIS

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Background: Arterial stiffness is known marker of poor cardiovascular prognosis. The aim if the study was to assess the incidence of valve calcification