P107: OSCILLOMETRIC MEASUREMENT OF 24-HOUR PULSE WAVE VELOCITY PREDICTS ALL-CAUSE MORTALITY IN PATIENTS WITH END-STAGE RENAL DISEASE: THE ISAR-STUDY

Julia Matschkal, Christopher C. Mayer, Siegfried Wassertheurer, Georg Lorenz, Susanne Angermann, Stephan Kemmner, Matthias Braunisch, Roman Günthner, Bernhard Haller, Marcus Baumann, Uwe Heemann, Christoph Schmaderer

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as preterm birth, than hypertension which develops later in life. Surprisingly, no trials have investigated whether lifestyle advice developed for blood pressure control in older adults is effective in these young populations.

**Methods:** TEPHRAs is a randomised control trial of a 16 week physical activity intervention including behaviour change and structured exercise in young adults with pre- and stage 1 hypertension. On-line recruitment is used with targeting to ensure inclusion of a proportion born preterm. Primary outcome is 24 hr ambulatory blood pressure at 4 months. Subjects undergo additional multimodal assessments including vascular stiffness, blood sampling, microvascular assessment, echocardiography, remote activity monitoring and multi-organ magnetic resonance imaging to identify potential predictors of blood pressure change.

**Results:** Recruitment started in April 2016 and currently (June 2017) 344 potential participants have been screened with 103 progressing to a baseline visit, of which 91 have been randomised. Two participants have completed their 12 month follow up. Recruitment is predicted to be completed by February 2018 with data reporting of four months outcomes in late 2018.

**Conclusion:** TEPHRAs aims to deliver the most in-depth investigation to date on the effects of physical exercise on the cardiovascular system and health of young adults at risk of early hypertension and cardiovascular disease.

**References**


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.

References

P108
IMPACT OF KIDNEY TRANSPLANTATION ON AORTIC STIFFNESS INDEX J0

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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 J0, 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 J0 and 2) to define the characteristics of patients with favourable and unfavourable trajectories of aortic stiffness index J0 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 J0 was obtained using a formula proposed by Spronck and colleagues. Cytokines profile was measured in plasma by ELISA.

Results: There was a reduction of J0 3 months after KTx (29.0 ± 2.0 to 25.8 ± 1.2, P = 0.033). Then, aortic stiffness index J0 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 J0 was not related to renal function, age, comorbidities or kidney donor characteristics. However, the unfavourable progression of J0 was associated with higher levels of interleukin-6 (P = 0.029).

Conclusions: The improvement of aortic stiffness index J0 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 J0, 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
PROGRESSION OF AORTIC ARCH CALCIFICATION AFTER KIDNEY TRANSPLANT AND ITS IMPORTANCE IN PREDICTING CARDIOVASCULAR RISK: SINGLE-CENTER 2-YEAR FOLLOW-UP STUDY

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