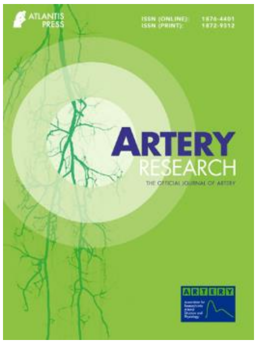

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PO-37: THE IMPACT OF INTRADIALYTIC PEDALING EXERCISE ON ARTERIAL STIFFNESS IN A HEMODIALYSIS POPULATION

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standard' measure) were measured at baseline and after each intervention period.
Results: fCPAP and APAP were associated with similar improvements in sleep quality, AHI and oxygen desaturation indices, while the nadir SpO_2 was significantly higher with fCPAP than APAP (z=-2.251, p=0.03). There were no significant effects of either modality on central BP or 24h ABPM, likely due to controlled BP at baseline. Both fCPAP and APAP improved cfPWV compared to baseline, (fCPAP, p=0.017; APAP, p=0.056), suggesting that their effects are BP independent. CPAP significantly decreased HR and HRV, whereas APAP had no effect.
Conclusions: No differences in vascular function was observed with treatment with fCPAP or APAP, but there is some suggestion that fCPAP is associated with improved measures of arterial health, i.e.: cfPWV and HR. The effects of fCPAP on arterial stiffness may be independent of BP and potentially mediated by changes in sympathovagal activity. Our results of mild favorable effects of fCPAP need to be confirmed in larger studies.

PO-37

THE IMPACT OF INTRADIALYTIC PEDALING EXERCISE ON ARTERIAL STIFFNESS IN A HEMODIALYSIS POPULATION

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Objectives: Hemodialysis patients are at greater risk of increased arterial stiffness. Regular aerobic exercise has been shown to reduce arterial stiffness in hemodialysis patients. However, the impact of a more realistic intradialytic form of exercise, such as pedaling, is unclear. Therefore, we aimed to examine 1) the effect of intradialytic pedaling exercise on arterial stiffness over 4 months, and 2) the durability of the pedaling effect 4 months after finishing the exercise intervention.
Methods: We performed a 4-month randomized control trial in patients on a stable in-center hemodialysis regimen (3 days/week). Subjects were block randomized to either pedaling exercise (EX) or to a control group receiving usual dialysis (nonEX) for 4 months. At baseline and 4 months, augmentation index heart rate corrected (AIx75), and carotid-femoral pulse wave velocity (cfPWV) were assessed (applanation tonometry; SphygmoCor XCEL). Measurements were repeated in the EX group 4 months after the exercise intervention.
Results: 11 exercisers (58±16 years, BMI 26±5kg/m^2, 3 female) and 10 controls (53±15 years, BMI 27±6kg/m^2, 3 female) were included. Overall exercise compliance was 60±25%, and subjects exercised on average 47±25 mins per session. AIx75 was unchanged in the EX group, however an increase of 4.4±4.5% was noted in the nonEX group (*P=0.020*). We observed a greater absolute decrease in cfPWV in the EX group compared to the nonEX group: -1.44±2.06 vs. 0.27±0.55 m/s (*P=0.037*) (Figure 1). This difference in cfPWV was maintained after adjustments for age, Charlson comorbidity score, and the baseline cfPWV value (*P=0.041*). Interestingly, the decrease in cfPWV observed in the EX group was partially preserved 4 months after exercise cessation (Figure 2).
Conclusions: The relationship between intradialytic pedaling exercise and improved arterial stiffness is promising, and warrants further investigation. Moreover, we have demonstrated that pedaling exercise is a realistic form of aerobic training in hemodialysis patients.

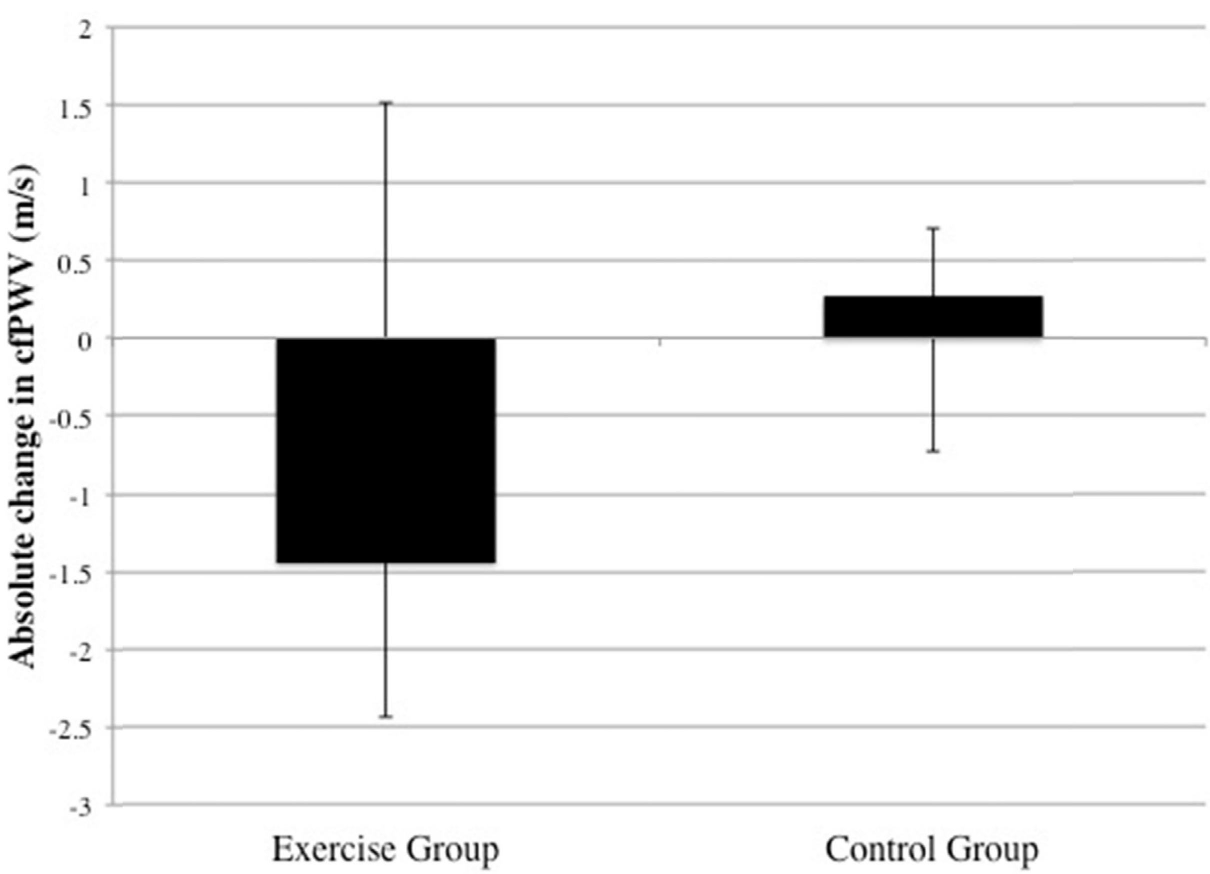

Figure 1 Post-exercise absolute change in cfPWV.

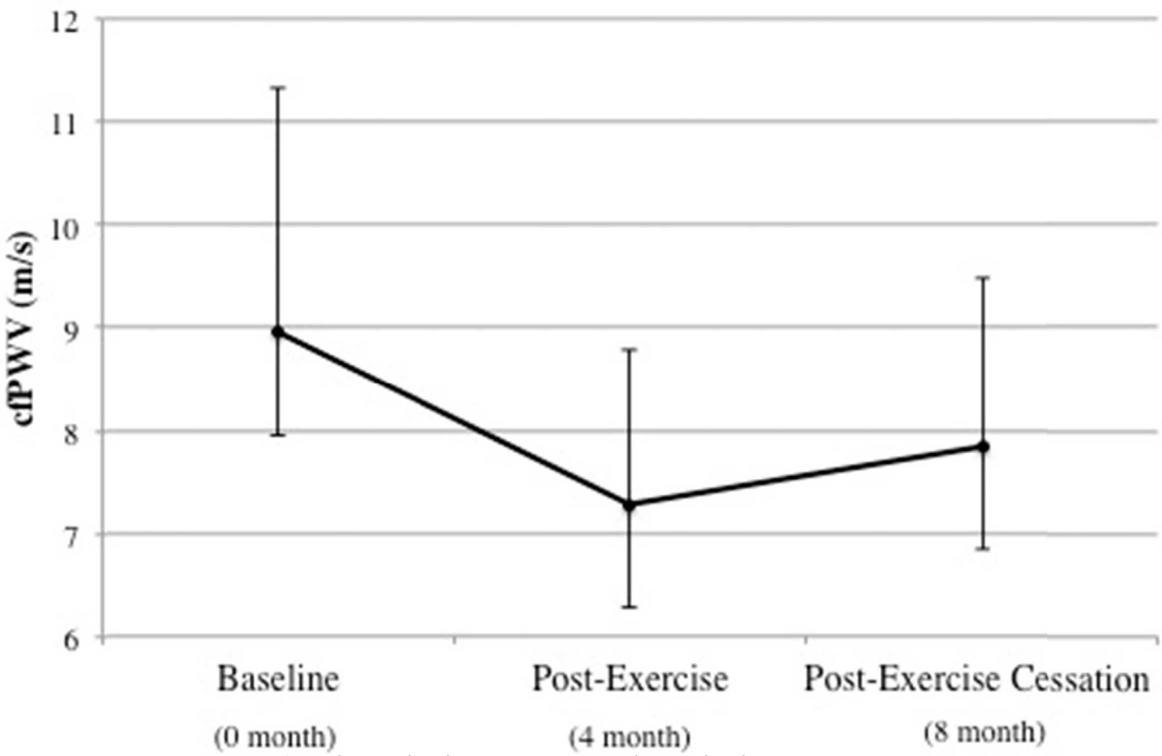

Figure 2 cfPWV at baseline, post-exercise and 4 months after exercise cessation.