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Carotid Artery Stiffness decreases in Older Women Following 6-Month Aerobic Exercise Intervention

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Aging causes functional and structural arterial changes in both sexes. However, aerobic exercise shows beneficial effects on arterial function and structure in older men, whereas older women show limited to no effect on arterial function after aerobic exercise. Currently, little is known about effects of longer aerobic exercise intervention on arterial structure as well as function in older women. **PURPOSE:** To elucidate the effect of a 6-month moderate intensity aerobic exercise intervention on arterial structure and function in older women. **METHODS:** Carotid artery beta-stiffness and compliance (arterial structure) as well as flow-mediated dilation (%FMD) of brachial artery (arterial function) were measured in eleven older women (75.9 y) at baseline and after a 6-month moderate exercise (3-4x/week) intervention. Furthermore, central arterial stiffness was assessed by carotid-femoral pulse wave velocity (PWV). **RESULTS:** There were no significant differences pre and post intervention in %FMD (2.93 ± 2.03 vs. 3.49 ± 2.77, $p=0.49$), PWV (9.36 ± 1.14 vs. 9.12, $p=0.09$, $n=9$), and arterial compliance (0.48 ± 0.18 vs. 0.58 ± 0.24, $p=0.07$). A significant decrease in beta stiffness (13.85 ± 5.1 vs. 11.27 ± 5.70, $p=0.03$) was seen compared to baseline. **CONCLUSION:** Moderate intensity aerobic exercise intervention improves the carotid artery stiffness in older women despite a lack of improvement in overall arterial responsiveness to increased flow.

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