

## Gender Differences in Walking Capacity and Cardiovascular Regulation in Patients with Peripheral Arterial Disease

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**Abstract :** Women with peripheral arterial disease (PAD) present lower walking capacity in comparison with men. However, whether cardiovascular regulation is also different between genders is unknown. Thus, the aim of this study was to compare walking capacity and cardiovascular regulation between men and women with PAD. A total of 23 women ( $66\pm 7$  yrs) and 31 men ( $64\pm 9$  yrs) were recruited. Patients performed a 6-minute test and the onset claudication distance and total walking distance were measured. Additionally, cardiovascular regulation was assessed by arterial stiffness (pulse wave velocity and augmentation index) and heart rate variability (frequency domain). Independent T test or Mann-Whitney U test were performed. In comparison with men, women present lower onset claudication distance ( $108\pm 66$ m vs.  $143\pm 50$ m;  $P=0.032$ ) and total walking distance ( $286\pm 83$ m vs.  $361\pm 91$  m,  $P=0.007$ ). Regarding cardiovascular regulation, there were no differences in heart rate variability SDNN ( $72\pm 160$ ms vs.  $32\pm 22$ ms,  $P=0.587$ ); RMSSD ( $75\pm 209$  vs.  $25\pm 22$ ms,  $P=0.726$ ); pNN50 ( $11\pm 17$ ms vs.  $8\pm 14$ ms,  $P=0.836$ ) in women and men, respectively. Moreover, there were no difference in augmentation index ( $39\pm 10\%$  vs.  $34\pm 11\%$ ,  $P=0.103$ ); pulse pressure ( $59\pm 17$ mmHg vs.  $56\pm 19$ mmHg,  $P=0.593$ ) and pulse wave velocity ( $8.6\pm 2.6$ m/s vs.  $9.0\pm 2.7$ m/s,  $P=0.580$ ). In conclusion, women have impaired walking capacity compared to men. However, sex differences were not observed on cardiovascular regulation in patients with PAD.

**Keywords :** exercise, intermittent claudication, cardiovascular load, arterial stiffness

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