

LETTERS TO THE EDITOR

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Left atrial volume and exercise capacity in adult heart transplant recipients

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Letter to the editor

It is well established that heart transplantation can improve patients' quality of life, exercise capacity and survival [1,2]. Despite of the improvement in exercise performance after heart transplant, it still remains sub-normal when compared with healthy subjects [3]. Cardiac causes as chronotropic incompetence [4] and diastolic dysfunction [5] have been proposed to be related to the post-transplant exercise impairment, but few studies are available about this theme.

The study by Abdul-Waheed et al. [6] is very interesting and adds important information to what we know about cardiac causes of exercise capacity limitations in heart transplant recipients. This retrospective study investigated the left atrial volume (LAV, n = 50) and its change along one year (Δ LAV, n = 40) in transplant recipients.

The main find of the study by Abdul-Waheed et al was the increasing of the LAV along the one year follow-up and the modest correlation between LAV ($r = 0.3$; $p = 0.038$) and Δ LAV ($r = 0.48$; $p = 0.002$) with VE/VCO_2 slope, what made the authors speculate about the surgical scar between the native and donor atrium. This scar could impair left atrial pump function and induce atrium dilatation to increase its capacity, as a compensatory mechanism.

In the figure one of the study, it is evident that some patients decreased LAV while the greatest part of patients increased LAV along the follow-up. Maybe if the authors have made the correlation between the Δ LAV and VE/VCO_2 slope separately, according to the increasing or decreasing of the LAV along the follow-up, it could be figured out that patients who had a decreased LAV could have experienced a negative correlation between Δ LAV and VE/VCO_2 slope.

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This way, these data suggest that LAV may play an important role on the exercise capacity understanding in heart transplant recipients.

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References

1. Wu YT, Chien CL, Chou NK, Wang SS, Lai JS, Wu YW: Efficacy of a home-based exercise program for orthotopic heart transplant recipients. *Cardiology* 2008, **111**:87-93.
2. Carvalho VO, Bocchi EA, Guimarães GV: Aerobic Exercise Prescription in Adult Heart Transplant Recipients: A Review. *Cardiovasc Ther* 2010, doi: 10.1111/j.1755-5922.2010.00175.x.
3. Leung TC, Ballman KV, Allison TG, Wagner JA, Olson LJ, Frantz RP, et al: Clinical predictors of exercise capacity 1 year after cardiac transplantation. *J Heart Lung Transplant* 2003, **22**:16-27.
4. Bengel FM, Ueberfuhr P, Schiepel N, Nekolla SG, Reichart B, Schwaiger M: Effect of sympathetic reinnervation on cardiac performance after heart transplantation. *N Engl J Med* 2001, **345**:731-8.
5. Paulus WJ, Bronzwaer JG, Felice H, Kishan N, Wellen F: Deficient acceleration of left ventricular relaxation during exercise after heart transplantation. *Circulation* 1992, **86**:1175-85.
6. Abdul-Waheed M, Yousuf M, Kelly SJ, Arena R, Ying J, Naz T, Dunlap SH, Shizukuda Y: Does left atrial volume affect exercise capacity of heart transplant recipients? *J Cardiothorac Surg* 2010, **5**:113.

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