





Beta-blockade improves right ventricular diastolic function in exercising pulmonary arterial hypertension

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Beta-blockade improves right ventricular exercise diastolic function in pulmonary arterial hypertension via improved heterometric adaptation to the increase in venous return. Further studies are required to determine mechanisms underlying this change. <https://bit.ly/3ZMT8bu>

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To the Editor:

Right ventricular (RV) function is a main determinant of outcome in pulmonary arterial hypertension (PAH) [1]. Increased neuro-humoral activation associated with decreased survival in PAH may worsen RV adaptation to increased afterload [2, 3]. There is rationale therefore for the use of β -blockers in PAH, especially given their beneficial effect on RV function in experimental PAH models [4, 5]. Small clinical studies in PAH using bisoprolol and carvedilol have demonstrated acceptable patient tolerance, however no change in exercise capacity was seen and, concerning, resting cardiac output (CO) decreased despite unchanged or even mild improvement in RV ejection fraction (EF) [6, 7]. Moreover, in exercising PAH, associated with impaired RV adaptation to high afterload, acute effects of β -blockers on the RV are unstudied. In the present study, we reasoned that the acute administration of β -blockers in PAH patients might improve RV diastolic filling, as has been observed in experimental PAH [5], and accordingly contribute to preservation of coupling of RV function to the pulmonary circulation during exercise.

