NCT
Neumología y Cirugía de Tórax
Vol. 82 - No. 4 / October-December 2023
Editorial
doi: 10.35366/117935

Heart failure and pulmonary hypertension: first Latin American study

Falla cardíaca e hipertensión pulmonar: primer estudio latinoamericano

Andrés Palomar-Lever*

*Centro Médico ABC, Mexico City.

In this NCT issue appears the article by Murillo-Benítez, et al.[1] on pulmonary hypertension (PH) in patients with heart failure from the Colombian Heart Failure Registry *(RECOLFACA)*. This Latin American registry includes adult outpatients with heart failure from the 60 centers of reference in Colombia over a two-year period. The authors evaluated the demographic characteristics, the comorbidities and as primary outcome the mortality by all causes, they used a Cox proportional hazards regression model to assess the primary outcome in patients with heart failure and PH. The authors included a large sample of 2,528 patients and in 1,833 echocardiographic reports were available to confirm or rule out the presence of PH; in 48% of the cases the echocardiographic criteria for PH diagnosis was met. In addition, they analyzed the impact of comorbidities, including chronic obstructive pulmonary disease (COPD), valve disease, atrial fibrillation, kidney disease, thyroid disease, anemia, use of blood thinners, vasodilators and diuretics, which were useful predictors to identify heart failure and PH, as well as a higher prevalence in patients with heart failure and preserved ejection fraction (HFpEF) with PH.

The systematic study of the patients with PH allows us to classify them into five different groups according to their hemodynamic definition (pre-capillary or post-capillary), also related to the type of vascular damage and the mechanism of PH vascular damage. The most frequent group is group II, associated with left-sided heart disease. In the last classification, this group distinguishes a new subgroup of patients with PH associated with an obstruction, congenital or acquired, of the inflow and outflow of the left ventricle. The other subgroups have remained as they were, systolic or diastolic dysfunction of the left ventricle and valve disease. In the case of heart failure, its involvement in pulmonary circulation is known; initial studies in the 1930s, focused on the mitral stenosis, reported histological damages to the pulmonary vasculature secondary to sustained increases in venous pressure, consisting of arterial remodeling, hypertrophy of the media, intimal proliferation, microthrombosis, thickening of the adventitia and fibrinoid necrosis. In 1958, Wood proposed the hemodynamic classification of PH, in which the mean pulmonary pressure is passively increased by an increase in the left atrial pressure. Recently, group II PH has become a topic of primary interest in terms of its pathophysiology and specific therapy in early stages of heart failure, categorizing two phenotypes according to their ejection fraction, preserved or reduced, and that related to comorbidities. HP is rated as pre-capillary when the pulmonary artery wedge pressure (PAWP) is ≤ 15 mmHg and post-capillary when the PAWP is >15 mmHg, post-capillary HP can be subclassified into pure post-capillary with normal diastolic-PAWP gradient and combined pre and post-capillary with diastolic-PAWP gradient ≥ 7 mmHg.

The echocardiography performed by experienced operators is the most useful tool for detecting PH, when there is clinical suspicion, as well as in patients from family risk groups, for example, patients with scleroderma, among others. In this study, the diagnosis of PH was made based

Correspondence:
Dr. Andrés Palomar-Lever
Centro Médico ABC, Mexico City.
E-mail: andrespalomar@hotmail.com

How to cite: Palomar-Lever A. Heart failure and pulmonary hypertension: first Latin American study. Neumol Cir Torax. 2023; 82 (4):201-202. https://dx.doi.org/10.35366/117935

on 2D echocardiographic and color Doppler findings with a calculated systolic pulmonary pressure above 35 mmHg. In addition, cases with reduced ejection fraction when it was < 40% were considered. However, there were no hemodynamic measurement variables. Demographic findings demonstrated that patients with heart failure and PH had a higher prevalence of COPD, thyroid disease, chronic kidney disease, valve diseases, anemia, and higher prescription of diuretics and anticoagulants, as well as a higher brain natriuretic peptide, compared to patients without PH. Patients with HFpEF and PH were more frequently female, with a higher prevalence of COPD, thyroid disease, and valve diseases. The diagnosis of PH in patients with heart failure was not associated with increased mortality at follow-up. This negative result is possible due to the requirement for a larger sample, the lack of hemodynamic study and possibly the lack of more echocardiographic information such as right ventricular function parameters, measurement of left atrial diameters and ventricular interaction data.

This is the first Latin American study that we are aware of that shows the demographic characteristics, comorbidities and mortality predictors of patients with heart failure and the presence of PH.

REFERENCE

1. Murillo-Benítez NE, Rivera-Toquica A, Saldarriaga C, Campbell-Quintero S, Morales-Rodríguez LN, López-Ponce de León JD, *et al.* Hipertensión pulmonar en pacientes con falla cardíaca: análisis del Registro Colombiano de Falla Cardíaca. Neumol Cir Torax. 2023;82(4):203-211. https://dx.doi.org/10.35366/117936