Editorial: Pulmonary hypertension

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This second monographic issue of BRN Reviews for 2022 is focused on new breakthroughs in respiratory diseases, specifically in pulmonary hypertension (PH).

Pulmonary hypertension is currently defined as mean pulmonary arterial pressure > 20 mmHg at rest as measured by right heart catheterization. The disease is characterized by marked remodelling of the pulmonary vasculature and a progressive rise in the pulmonary vascular load, causing hypertrophy and remodelling of the right ventricle leading to death if left untreated.

The several forms of pulmonary hypertension are categorized into five clinical groups. There are prevalent and less severe causes, such as PH secondary to left heart diseases and PH secondary to respiratory diseases, and rare forms but very aggressive such as pulmonary arterial hypertension and chronic thromboembolic pulmonary hypertension.

In the last two decades, pulmonary hypertension has progressed from a disease of exceptional diagnosis with a very severe short-term prognosis, to a disease where any cardiopulmonary doctor should think of prematurely when faced with a compatible case. We will address the management of frequent forms with no specific treatment, an early form of pulmonary hypertension such as exertional pulmonary hypertension and, finally, new pathogenic pathways to treat the disease, looking for new potential targets.

The worth of this review is due to the participation of both international pulmonologists and cardiologists who are experts in the field worldwide.

The first review is focused on the most frequent cause of pulmonary hypertension, pulmonary hypertension secondary to left heart diseases. It is written by the cardiologist Dr Ana García-Álvarez from Hospital Clinic de Barcelona and her team (Dr Juan Jose Rodriguez-Arias and Eduard Solé-González). They describe in depth the new evidence on physiopathology, genetics, biological markers, imaging, and novel treatment of their institution.

The second manuscript on the second most common cause of pulmonary hypertension, the one related to respiratory diseases and hypoxemia, is authored by the group from Leuven, Belgium, Dr Laurent Godinas, Diana Santos Ribeiro, and Marion Delcroix, with an invaluable contribution to the guidelines on this form of PH. The extensive review is focused on epidemiology, clinical characteristics,

and treatment, especially of PH related to chronic obstructive pulmonary disease (COPD) and interstitial lung disease (ILD), the most common causes of PH in group 3.

The third paper is written by the group from Graz, Austria, Katarina Zeder, Horst Olschewski and Gabor Kovacs, who provide an excellent overview of the growing evidence on the clinical relevance of pulmonary hemodynamics during exercise and its potential future role.

And finally, the fourth review is focused on novel potential therapeutic approaches to improve the prognosis of this devastating disease. This very well-written document is elaborated under the supervision of Prof. Paul Hassoun, Professor of Medicine at the Johns Hopkins University School of Medicine and Director of the Pulmonary Hypertension Program at Johns Hopkins Hospital, in collaboration with Dr Nour Ayoub and Dr Hussein Hassan. The authors explore recent studies on the efficacy and safety of new therapeutic agents aimed at modifying the disease course and improving long-term survival.

As editor of this monograph, I hope that it will serve as a reference manual for clinicians and researchers involved in the management of these often tremendously complex patients with pulmonary hypertension.

I would like to thank all the authors for the extra effort they made to find time to contribute to this monography despite their busy agenda in the management of pulmonary hypertension.

I very much hope you will enjoy reading this issue of BRN Reviews.

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