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Editorial

What Did the Latest Updated Pulmonary Hypertension Guide Bring?

Son Pulmoner Hipertansiyon Kılavuzu Ne Diyor ?

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Pulmonary hypertension (PH), a life-threatening disease with complex pathophysiology, is a disorder that leads to elevated pulmonary arterial pressure and right ventricle failure. It requires a multidisciplinary approach due to its complex pathophysiology. Recently, significant advances have been made in the detection and management of the disease. These conditions are mentioned in the latest 2022 ESC/ERS Guidelines for the diagnosis and treatment of PH.[1] This article emphasizes advances in PH diagnosis and treatment, based on this guide.

One of the most important changes included in the guideline was the revision of the hemodynamic definition of PH. The new definitions of PH include a revised cut-off level for pulmonary vascular resistance (PVR) and a definition of exercise PH. The PH was defined as the mean pulmonary artery pressure (mPAP) measured by right heart catheterization is over 20 mmHg. Reducing the PVR limit used from 3 WU to 2 WU. Exercise PH was defined as a slope of mPAP/cardiac output between rest and exercise >3 mmHg/L/min during hemodynamic evaluation. Recommendations in PH associated with lung disease and left heart disease have been updated, including a new hemodynamic definition of severe PH in those with lung disease. In group 4 PH, the term chronic thromboembolic pulmonary disease with or without PH was introduced, recognizing the presence of findings such as perfusion defects at rest. Interventional treatment (balloon pulmonary angioplasty) combined with medical therapy has been elevated in the therapeutic algorithm of chronic thromboembolic pulmonary disease.

Some updates have been made to the PH classification including revision of vasoreactive patients with idiopathic pulmonary arterial hypertension, also group 3 and group 5 PH. A new algorithm for the diagnosis of PH has been developed aiming at earlier detection of PH in the population. Furthermore, some new screening strategies have been proposed. In addition, expedited referral was recommended to prevent loss of time in high-risk or complex PH patients. New standards were set for PH centers and patient representatives were actively involved in the development of the current guideline for the 1st time.

The risk stratification has been expanded to include additional echocardiographic (echocardiography is an indispensable examination for prognosis determination and treatment monitoring in PH) and cardiac magnetic resonance imaging findings. Cardiac magnetic resonance imaging assesses atrial and ventricular size, morphology, and function accurately and reproducibly. With additional procedures, it may provide about right/left ventricle strain. Furthermore, blood flow in vessels including pulmonary artery, aorta and vena cava, stroke volume, and intracardiac shunt can be evaluated with this technique.

Recommendations for initial drug treatments have been simplified. Treatment strategies during follow-up were based on the four-layer model to facilitate more detailed decision-making. At follow-up based on functional class, 6-min walk distance, widely used in assessing exercise capacity of PH, and

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N-terminal pro-brain natriuretic peptide, is associated with some pulmonary hemodynamic parameters and survival, patients were classified as low, intermediate-low, intermediate-high, or high risk. The PH treatment algorithm was changed by emphasizing the importance of risk assessment, cardiopulmonary comorbidities, and combination treatments during diagnosis and follow-up. Accordingly cardiopulmonary comorbidities, patients were classified into two phenotypes: Left heart phenotype (risk factors such as diabetes, coronary artery disease, obesity, pre-capillary rather than post-capillary PH, mostly female patients, approximately 30% atrial fibrillation) and cardiopulmonary phenotype (diffusing capacity of the lung for carbon monoxide <45%, generally hypoxic, serious smoking history, risk factors for left heart disease, elderly, and more frequently male patients).

The following issues have been clarified for clinicians; initial treatment strategy for group 1 PH (population, intervention, control, outcome [PICO] I); use of oral phosphodiesterase 5 inhibitors (PDE5is) for the treatment of group 2 PH (PICO II); use of oral PDE5is for the treatment of group 3 PH (PICO III); and use of PH drugs before balloon pulmonary angioplasty for the treatment of group 4 PH (PICO IV).

Conclusion

Although the current guideline has some limitations, it facilitates the work of clinicians in PH clinical practices.

Disclosures

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References

1. Humbert M, Kovacs G, Hoeper MM, Badagliacca R, Berger RM, Brida M, et al. 2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension. Eur Heart J 2022;43(38):3618–731. doi: 10.1093/eurheartj/ehac237.