

Selective Serotonin Reuptake Inhibitors and Pulmonary Arterial Hypertension

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INTRODUCTION

The definition and classification of pulmonary hypertension is updated in the current guideline released by European Society of Cardiology (ESC) and European Respiratory Society (ERS) in 2022. According to this guideline, measurement of hemodynamic parameters should primarily be performed with heart catheterization. Patient should be evaluated in detail and classified accordingly. As for the definition, pulmonary hypertension is defined as a mean pulmonary artery pressure of 20 mmHg or more at rest. This situation is expressed in detail in Table 1 based on basic data (1).

Table 1. Definition and classification of pulmonary hypertension

Pulmonary hypertension (PH)	mPAP >20 mmHg
Pre –capillar PH	mPAP >20 mmHg PAWP ?15 mmHg PVR >2 WU
Isolated post- capillary PH	mPAP >20 mmHg PAWP >15 mmHg PVR ?2 WU
Combined pre and post-capillary PH	mPAP >20 mmHg PAWP >15 mmHg PVR >2 WU
Exercise PH	mPAP/CO slope between rest and exercise >3 mmHg/L/min

CO, cardiac output; CpcPH, combined post- and pre-capillary pulmonary hypertension; lpcPH, isolated post-capillary pulmonary hypertension; mPAP, mean pulmonary arterial pressure; PAWP, pulmonary arterial wedge pressure; PH, pulmonary hypertension; PVR, pulmonary vascular resistance; WU, Wood units.

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REFENRENCES

- 1. Hoeper MM, Humbert M. The new haemodynamic definition of pulmonary hypertension: evidence prevails, finally! Eur Respir J. 2019 Mar 28;53(3):1900038.
- Humbert M, Kovacs G, Hoeper M et al. 2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: The Joint Task Force for the Diagnosis and Treatment of Pulmonary Hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS): Endorsed by: Association for European Paediatric and Congenital Cardiology (AEPC), International Society for Heart and Lung Transplantation (ISHLT). Eur Heart J. 2022 Oct;43(38):3618-3731
- Galiè N, Humbert M, Vachiery JL, et al. 2015 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: The Joint Task Force for the Diagnosis and Treatment of Pulmonary Hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS): Endorsed by: Association for European Paediatric and Congenital Cardiology (AEPC), International Society for Heart and Lung Transplantation (ISHLT). Eur Respir J. 2015 Oct;46(4):903-75.
- McLaughlin VV, Shah SJ, Souza R, et al. Management of pulmonary arterial hypertension. J Am Coll Cardiol no;65(18):1976–97
- 5. Yuichiro J.S, Regina M, Chia C.T, et al. Activation of GATA-4 by Serotonin in Pulmonary Artery Smooth Muscle Cells. THE JOURNAL OF BIOLOGICAL CHEMISTRY 2003 Vol. 278, No. 19, Issue of May 9, pp. 17525–17531.
- Philipe H, Jean-Marie L, Marie-Laurkne S. Increased Plasma Serotonin in Primary Pulmonary Hypertension. The American Journal of Medicine September 1995- 99
- 7. Mallay O, Setareh Salehi O, Margaret A Persistent Pulmonary Hypertension of the Newborn and Selective Serotonin Reup take Inhibitors Am J Psychiatry 2012;69:134–140
- 8. Steven M. K, Evelyn M. H, Ketevan K. B. Selective serotonin reuptake inhibitor use and outcomes in pulmonary arterial hypertension. Pulmonary Pharmacology & Therapeutics 19 (2006) 370–374
- Irfan A. D, David N. J, Tara Gomes. Selective Serotonin Reuptake Inhibitors and Pulmonary Arterial Hypertension CHEST 2012; 141(2):348–353
- 10. Ali S, Kari E. R, Ioana R. P. Use of Selective Serotonin Reuptake Inhibitors and Outcomes in Pulmonary Arterial Hypertension. CHEST 2013; 144(2):531–541
- 11. Claire K. S. M, Justin F. C, Cheryl M. et al. SSRIs: Applications in inflammatory lung disease and implications for COVID-19 Neuropsychopharmacology Reports. 2021;00:1–11
- 12. David L. H, Samia R. T, Peter J, et al. Depression and cardiovascular disease: a clinical review European Heart Journal (2014) 35, 1365–1372 doi:10.1093/eurheartj/eht462