

Evolutionary aspects of the diagnosis of pulmonary hypertension

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BACKGROUND. Pulmonary hypertension (PH) is considered an irreversible, progressive disease that leads to right ventricular failure and death. Early detection of PH and pulmonary arterial hypertension (PAH), as well as correct determination of the etiology, is vital for early therapeutic intervention, which can prolong life expectancy and improve its quality.

OBJECTIVE. To analyze the evolution of noninvasive screening tools for the timely diagnosis of PH.

MATERIALS AND METHODS. Hemodynamically, PH is diagnosed by an increase in mean pulmonary artery pressure (mPAP) >20 mm Hg, determined by right heart catheterization. Pulmonary artery wedge pressure (PAWP) ≤ 15 mm Hg and pulmonary vascular resistance (PVR) >2 Wood units are characteristic of precapillary PH, while isolated postcapillary PH has PAWP >15 mm Hg and PVR ≤ 2 Wood units, and combined post- and precapillary PH has PAWP >15 mm Hg and PVR >2 Wood units.

RESULTS AND DISCUSSION. These conditions can occur in numerous diseases and clinical situations. In its development, the determination of PH has evolved in terms of its definition, screening methods, and diagnostic approaches. Thus, PH during exercise has been defined as a hemodynamic state that describes a normal resting mPAP with its abnormal increase during exercise, defined as a slope of the mPAP / cardiac output curve >3 mm Hg/L/min between rest and exercise.

CONCLUSIONS. We analyzed the diagnostic origins of PH, current classification approaches, invasive and noninvasive diagnostic methods, and models for future early diagnosis. There is no doubt that early detection of PH and PAH, as well as accurate determination of their etiology, are fundamental for optimal therapy. The search for a noninvasive screening method for the diagnosis and classification of PH continues.

KEY WORDS: pulmonary hypertension, pulmonary heart disease, pulmonary vascular resistance, pathogenesis, cardiac catheterization, wedge pressure, classification.
