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DIAGNOSIS AND DIFFERENTIATION OF PULMONARY ARTERIAL HYPERTENSION THROUGH AN ALGORITHM BASED ON RIGHT HEART CATHETERISATION

Jie-Yan Shen,¹ Tian-Bao Yao,¹ Hui Liu,¹ Ben He,¹ Leonhard Bruch² ¹*Department of Cardiology, Ren Ji Hospital, Shanghai Jiao Tong University Medical College, Shanghai, China;* ²*Department of Internal Medicine*

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Objectives To investigate the practicality of predefined algorithm based on right heart catheterisation in clinical diagnosis and differentiation of pulmonary arterial hypertension.

Background Pulmonary arterial hypertension (PAH) is a group of diseases which is commonly caused by or associated with an underlying pulmonary, cardiac, or systemic diseases. Transthoracic echocardiography is the recommended non-invasive test to screening for pulmonary arterial hypertension. Right heart catheterisation (RHC) is pivotal to establish the diagnosis, ascertain the aetiology and guide the therapy. We sought to develop an algorithm based on right heart catheterisation for application in clinical diagnosis and differentiation of PAH.

Methods One hundred and thirty seven consecutive patients who were suspected to have PAH under echocardiography, without presentation of left heart/valvular disease or chronic pulmonary disease, underwent RHC according to the algorithm. The utility and accuracy of this RHC algorithm in differential diagnosis of PAH were detected.

Results One hundred and eleven (81.0%) patients were diagnosed as PAH. The aetiology of these patients included 28 (25.2%) PAH associated with connective tissue disease, 27 (24.3%) idiopathic PAH, 23 (20.7%) PAH associated with congenital heart disease, 17 (15.3%) chronic thromboembolic pulmonary hypertension, 7 (6.3%) PAH with other rare causes, and 9 (8.1%) 'combined' PAH that was PAH accompanied with

pulmonary venous hypertension or hypoxia-associated pulmonary hypertension. Twenty six (19.0%) of total 137 patients were excluded PAH through this algorithm. All patients got accurate diagnosis according to which the relevant therapies were given and well treatment effects achieved at the 3-months follow-up. No serious complications occurred during the procedures.

Conclusions This predefined algorithm based on right heart catheterisation can be used well clinically to guide the diagnosis and differentiation of pulmonary arterial hypertension.