Chronic Thromboembolic Pulmonary Hypertension: Where are we now?

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Background: Chronic thromboembolic pulmonary hypertension (CTEPH), an uncommon disease following acute pulmonary embolism (APE), is usually underrecognized owing to non-specific presentations. Undiagnosed CTEPH would lead to unnecessary investigations of other diseases, and more importantly increase morbidities and mortality.

Objective: To define the overall incidence and the incidence of CTEPH after APE in a tertiary care hospital. Moreover, risk factors, clinical and imaging characteristics, diagnosis assessment, and management methods were also recorded.

Methods: Data, between January 2012 and December 2016, were retrospectively extracted from 2 databases of our institute: Radiology Department (PACS) and Thammasat University Hospital database (E-phis). Among 1751 patients, 291 had at least an evidence of pulmonary embolism. CTEPH were diagnosed in 26 patients. Of these, 16 patients had characteristics of combined APE or history of APE.

Results: The overall incidence of CTEPH was 49 per million outpatients and the incidence of CTEPH after APE was 6.7%. The most common risk factor was previous APE (39%). Whereas, dyspnea on exertion (46%) was the most clinical presentation in patients. All of the CTEPH patients were diagnosed by computed tomography pulmonary angiography (CTPA) combined with echocardiogram. Unfortunately, only 2 patients were investigated by ventilation/perfusion (V/Q) lung scan. In term of management, none underwent the gold standard surgical treatment of pulmonary endarterectomy, but one encountered balloon pulmonary angioplasty. Almost all of the patients received anticoagulants (92%), while only 4 patients were treated with pulmonary arterial hypertension-specific drugs.

Conclusion: CTEPH is uncommon in our institute, with underusing of standard test of V/Q scan. Suboptimal management of CTEPH is a crucial problem. Developing a CTEPH care team may improve future outcomes of patients.

Keywords: CTEPH, Pulmonary embolism, Thromboembolism, Pulmonary hypertension, Incidence, Risk factor, CTPA, V/Q scan, Echocardiogram,