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【 LETTERS TO THE EDITOR 】

High-risk Pulmonary Embolism: Should We Be Less Patient with Thrombolytic Therapy?

Key words: high-risk pulmonary embolism, thrombolytic therapy, timing

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To the Editor We read the case report by Baha et al. (1) in the latest issue of Internal Medicine with great interest. In this case report, a patient with massive pulmonary embolism (PE) confirmed by thorax computed tomography (CT) angiography was successfully treated with thrombolytic therapy. Massive PE can lead to cardiac arrest (CA) in 41% of patients, and the mortality rate was reported to be over 50% in patients with massive PE developing CA (2). We have several questions concerning the extrapolation of this case to a clinical setting. Because of the high mortality rate, appropriate risk stratification of high-risk patients is very important to reduce the mortality in such patients.

First, why thrombolytic therapy was delayed until after the second instance of CA is unclear. In order to determine the patients with high mortality risk, the PE severity index (PESI) and the simplified PESI scores (sPESI) have been recently developed (3, 4). In the case described by Baha et al., the patient's sPESI was 3 (heart rate: 138/min, systolic blood pressure: 70 mmHg, arterial O_2 saturation: <90%), which indicated a high-risk state. In addition, the patient's echocardiography revealed increased right chamber sizes and pulmonary hypertension. Given the patient's hemodynamic instability and high-risk sPESI, thrombolytic therapy should have been given to the patient earlier than thoracic CT angiography.

Furthermore, why did Baha et al. not administer thrombolytic therapy during the second instance of CA in this patient? During the second instance of CA, massive PE was confirmed by thoracic CT angiography. The decision to administer thrombolytic therapy should be made quickly in PE patients, even during resuscitation, as serious hypoxic-ischemic neurological sequelae may occur as a result of CA.

Second, in Baha et al.'s case, a varicose vein operation was associated with massive PE. However, the authors did not explain whether or not the patient had deep venous thrombus in the lower extremity preoperatively. Did the patient receive any anticoagulation therapy before the operation? When was the patient mobilized after surgery? If their patient had no additional risk factors, early mobilization may have been the only method for thromboprophylaxis in a low-risk procedure.

Third, Baha et al. did not describe the anesthesia that the patient received during the operation. Was the operation performed under local or general anesthesia? Marked increases have been observed postoperatively in the thrombotic factors causing a hypercoagulable and hypofibrinolytic state in patients receiving general anesthesia (5).

The authors state that they have no Conflict of Interest (COI).

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