**Free-Floating Thrombi in the Right Atrium causing pulmonary embolism**

**Abstract**

A 74 year-old man, was presented to our Emergency Department with acute dyspnea. On the admission, the ECG showed atrial flutter with 2:1 block and a rate of 150 bpm. Initial investigations revealed a D-Dimer level of 6,01 mg/dl. Based on the patient’s complains and the high level of the D-Dimer, a CT pulmonary angiography was performed immediately. The angiography showed no evidence of pulmonary embolism, with pneumatic changes in the right upper lung lobe.  Antibiotics treatment was started with pipracillin / Tazobactam.  After the treatment, the patient showed a clear improvement in his condition. In his 3rd day of admission, and after a stool pass developed the patient acute dyspnea , diaphoresis with cardiopulmonary instability.  To support our clinical suspicion of pulmonary embolism, a transthoracic echocardiography was carried out. The echocardiography demonstrated a worm-like, mobile mass in the right heart. The right ventricle was enlarged, and paradoxical septal motion was present, indicating right ventricular pressure overload. The systolic tricuspid valvular gradient was 56mmHg.   
  
The patient was treated with thrombolysis ( the patient's condition was greatly clinically improved after three hours. After ten days of hospitalization, the patient was discharged.

-Case presentation:

A 74 year-old man, with no cardiovascular history, was presented to our Emergency Department with acute dyspnea. On the admission, the ECG showed atrial flutter with 2:1 block and a rate of 150 bpm. Initial investigations revealed a D-Dimer level of 6,01 mg/dl. Based on the patient’s complains and the high level of the D-Dimer, a CT pulmonary angiography was performed immediately. The angiography showed no evidence of pulmonary embolism, with pneumatic changes in the right upper lung lobe.  Antibiotics treatment was started with pipracillin / Tazobactam. The patient was admitted to our cardiology ward, and was also treated with unfractioned heparin. After the treatment, the patient showed a clear improvement in his condition. In his 3rd day of admission, and after a stool pass developed the patient acute dyspnea , diaphoresis with cardiopulmonary instability(Bp 80/60, P:120/m). The ECG demonstrated sinus tachycardia and T-wave inversion in leads III and aVF. Since performing a new CT was difficult due to the renal value, and to support our clinical suspicion of pulmonary embolism, a transthoracic echocardiography was carried out. The echocardiography demonstrated a worm-like, mobile mass in the right heart. The right ventricle was enlarged, and paradoxical septal motion was present, indicating right ventricular pressure overload. The systolic tricuspid valvular gradient was 56mmHg.   
  
The patient was treated with thrombolysis ( the patient's condition was greatly clinically improved after three hours. Serial ECHO studies demonstrated complete dissolution of the right sided thrombi). Later, a venous ultrasonography demonstrated that the thrombi were originated in the popliteal region of both legs. After ten days of hospitalization, the patient was discharged.

-Learning point:

* **Free-floating right heart thrombi is a rare phenomenon. Serial echocardiographic examinations are useful when the clinical status deteriorates, because they may demonstrate a thrombus that was not detected on the initial examination.**
* **Right heart thrombi-in-transit and deep venous thrombus should be sought in patients with massive pulmonary embolism. Echocardiography is necessary to assess the presence of PFO since the therapeutic options may vary in patients with right heart thrombus.**
* **Thrombolysis is a simple and fast treatment option with numerous advantages including acceleration of pulmonary reperfusion, reduction in pulmonary hypertension, improvement of right ventricular function, possibility of dissolving the intracardiac thrombus, pulmonary embolism, and the venous thromboembolism at the same time**

-References:

1. Chartier L1, Béra J, Delomez M, Asseman P, Beregi JP, Bauchart JJ, Warembourg H, Théry C.Free-floating thrombi in the right heart: diagnosis, management, and prognostic indexes in 38 consecutive patients.Circulation. 1999 Jun 1;99:2779-83.