Abstract: P689

Surgical treatment of a right heart thrombus-in-transit with massive bilateral pulmonary embolism

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Topic(s):
Echocardiography: Masses and Sources of Emboli

Citation:
Introduction: Right heart thrombi are rare, found in up to 20% of pulmonary emboli (PE), and associated with significantly increased mortality(1). A thrombus entrapped in a PFO is a rare form of right heart thromboembolism.

Clinical Case: A 73-year-old male patient who had dyspnea for 10 days, was transferred to our hospital for the surgical treatment of a cardiac tumor. We performed TTE which revealed a free floating, huge mass( measuring more than 8 cm long) in the right atrium, that protruded in the right ventricle, with high risk of embolization. Another smaller mass, attached to the interatrial septum. Severe right ventricular dysfunction and severe pulmonary hypertension were present. Contrast-enhanced computer tomography was performed, which revealed severe bilateral pulmonary artery emboli with complete occlusion of right pulmonary artery branch. Clinical and paraclinical data strongly suggested that the huge cardiac mass was a thrombus that originated from the lower extremity veins. TEE showed that the thrombus was entrapped through the PFO, with a smaller part in the left atrium and the biggest portion in the right atrium.

The patient underwent an emergent on-pump surgical cardiac and right pulmonary artery embolectomy. The right atrium was opened and a huge intracardiac thrombus with a length of 14 cm extending from the coronary sinus, to PFO in the left atrium and also in the right ventricle was removed. The right branch of the pulmonary artery was opened and a large volume of clot- 9 cm long- was removed. The patient was removed from cardio-pulmonary by-pass (CPB) on high doses of norepinephrine and dobutamine and necessitated initiation of venous-arterial ECMO to support the severe right heart dysfunction. He was extubated after 10 days, with little improvement in the clinical status. Transthoracic echocardiography showed smaller right heart cavities), normal left ventricular function, but persistent severe RV dysfunction and severe pulmonary hypertension. In the thirteenth postoperative day, he installed cardio-respiratory arrest and he died.

Discussion: In this report we describe a case of a patient with a huge intracardiac thrombus, entrapped through a PFO, associated with massive pulmonary embolism, with late presentation in our hospital and severe refractory right heart dysfunction. He underwent successful embolectomy, which is a unique procedure in the treatment of an acute pulmonary embolism and entrapped thrombus in a PFO.

Conclusion: The treatment of choice for emboli-in-transit is controversial. In a recent review, surgical thromboembolectomy showed a trend toward improved survival and significantly reduced systemic emboli compared to anticoagulation. Thrombolysis in these patients may cause fragmentation of thrombus and systemic embolization, resulting in increased mortality. Management decisions should be made with multidisciplinary coordination and consideration of complicating factors such as PFO.
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