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DOUBLE EDGE SWORD, A rare case of massive pulmonary embolism with thoracic aortic dissection

SN LAI[1], SRI RAO SIVA[1]

[1] *HOSPITAL KUALA LUMPUR KUALA LUMPUR, MALAYSIA*

INTRODUCTION

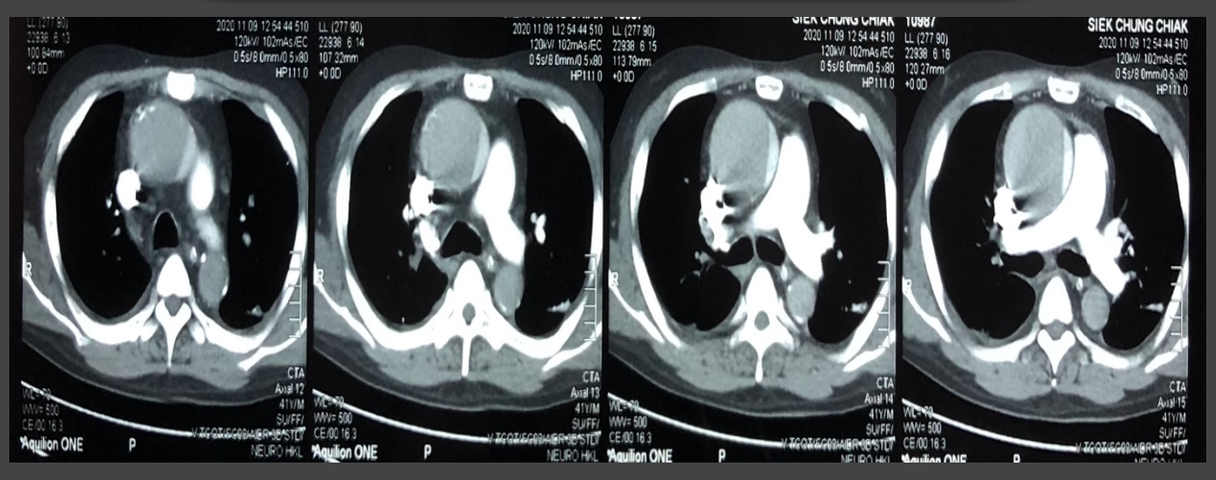
This case report describes a case of 41-year-old patient with massive pulmonary embolism (PE) with coincidental finding of thoracic aortic dissection (AD).

CASE REPORT

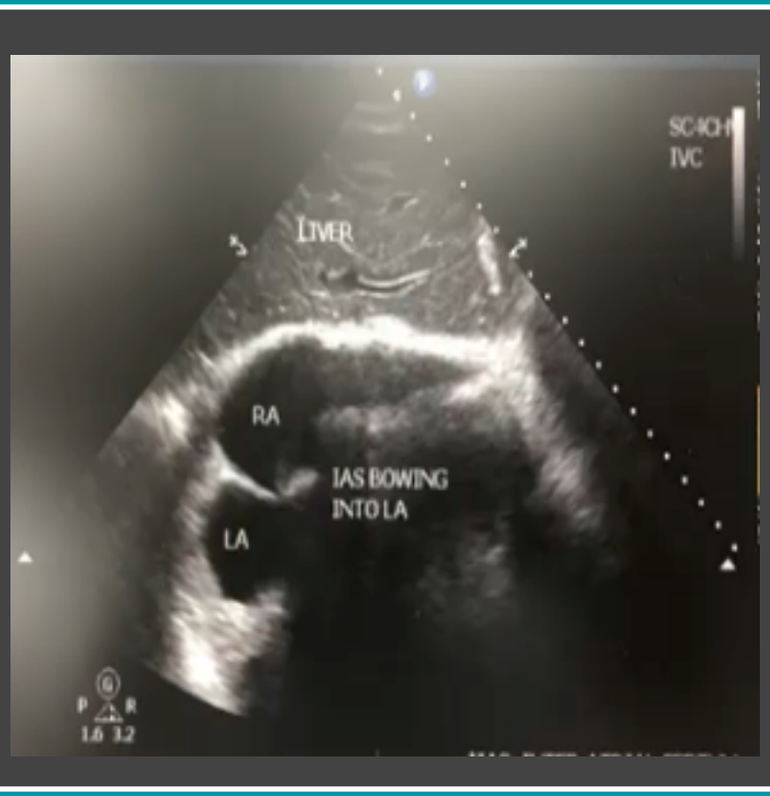
41-year-old male presented to our emergency department (ED) with 3-day history of dyspnea, productive cough with blood streaked sputum and episodes of syncope. He was intubated and mechanically ventilated for severe respiratory distress. Physical examination revealed signs of circulatory collapse, elevated jugular venous pressure and basal crackle. There was no clinical evidence of aortic dissection (AD) and deep vein thrombosis (DVT) of both lower limbs.

Mobile chest radiograph demonstrated widened mediastinum. Subcostal echocardiography view showed dilated right atrial chambers with inter-atrial septum bowing toward left atrial with the RA/LA ratio was less than 1. Urgent computed tomography pulmonary artery (CTPA), and angiogram of the thorax and abdomen revealed ascending aortic aneurysm with AD (Stanford A) and bilateral PE.

In this case report, family member of the patients opted for medical therapy as the surgical repair of aortic dissection was deemed high risk by the cardiothoracic team. Patient was admitted to CCU for close monitoring, supportive care and continuation of the therapeutic dosage of enoxaparin.



CTPA and angiogram of the thorax revealed an enlarged ascending aorta with evidence of aortic dissection without contrast leak. There were also bilateral pulmonary embolism involving ascending and descending branches of both the right and left pulmonary arteries.



Subcostal echocardiography view showed dilated right atrial chambers and bowing of the inter-atrial septum toward left atrial. The RA/LA ratio was less than 1

DISCUSSION

Pulmonary embolism is the third most common cause of cardiovascular death after myocardial infarct and stroke. [1] High index of suspicion is needed in diagnosing PE as its clinical presentation is heterogenous and non specific. [2]

Point Of Care Ultrasonography (POCUS) has continued to gain popularity in emergency medicine in the past decade, due to the remarkable value it adds in decision-making, the immediate availability and the advancing technology with further miniaturization and greater resolution. It iis typically performed at bedside, interpreted and integrated into care by emergency physicians in hemodynamic unstable PE patient. Acute PE may lead to right ventricular pressure overload and dysfunction, which are detectable by echocardiography. [3] In this reported case, we were unable to get a standard echocardiography view due to the poor echocardiography window of patient. However, the subcostal view showed a dilated right atrial chambers with inter-atrial septum bowing toward left atrial and a RA/LA ratio of more than 1. These findings were in consistent with elevated right ventricular afterload[4].

Systemic thrombolysis is the treatment of choice in high-risk patients. Alternative reperfusion options are surgical embolectomy or percutaneous catheter-directed treatment. In this case, we were concerned of aortic aneurysm or dissection in view of the presence of widened mediastinum on chest radiography and the suboptimal echocardiography view, thus systemic thrombolytic therapy was not initiated.

Despite comprehensive literature search, we could not found similar case report to support the best treatment modality in such complex case.

CONCLUSION

Even-though the principles of management of massive PE are prompt diagnosis and timely reperfusion therapy, clinician should actively sought for the contra-indication for therapy. This article demonstrates the importance of early involvement of multidisciplinary team in managing a complex illness pertaining to this case.

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DECLARATION

Authors have no conflict of interest to declare

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