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Subacute thromboembolic pulmonary hypertension with acute clinical worsening but improving CT findings – a case report

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Background:
- Subacute massive pulmonary embolism (PE) is associated with high mortality.
- The subacute presentation makes it difficult to diagnose and older clots are less amenable to systemic thrombolysis.
- This can result into increased likelihood of recurrence and thromboembolic pulmonary hypertension.

Case description:
- 17-year-old, previously healthy male presented with a month of exertional dyspnea, initially misdiagnosed with asthma.
- CT demonstrated diffuse PE on repeat presentation (Fig 1).
- Echocardiography demonstrated moderate to severe RV dilation and systolic dysfunction and suggested an RV systolic pressure of 73mmHg + RAP.
- He was subsequently admitted to the ICU and received a day of r-TPA therapy.
- Repeat echocardiogram showed improved RVSP and RV function, and he was started on rivaroxaban.
- 3 months later he had increased dyspnea with NYHA Class III symptoms.

An echocardiogram demonstrated worsened RV function and pressure, although repeat CT suggested improved PE burden (Fig 2).
- Cardiac catheterization revealed a cardiac index of 1.75 L/min/m² and PVR of 23 Wood Units * m² (Fig 3).
- He arrested during catheterization and was placed on ECMO.
- Alteplase, angioplasty and stenting were attempted, and he was referred for pulmonary endarterectomy at another institution.
- He developed acute renal and hepatic failure and ultimately succumbed to his death.

Conclusion:
Thromboembolic pulmonary hypertension can develop subacutely yet progress rapidly. It is often diagnosed late and has a high mortality rate; therefore, high index of clinical suspicion and prompt treatment is imperative.

Disclosure:
The authors of this case report have no financial disclosures.