THREE IS A CROWD

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Introduction

Coronavirus Disease 2019 (COVID-19) presents with varieties of clinical manifestations from asymptomatic to severe respiratory distress, multiple organ dysfunction and death(1). Hypercoagulable state in COVID 19 had increased risk of thromboembolic complications and pulmonary embolism (PE) is the most common thrombotic manifestation(2). Aortic dissection (AD) which has similar presentation to PE but with lower incidence rate, should be considered as differential. Immediate and accurate diagnosis of these scenarios is crucial to initiate the appropriate interventions.

Case description

22 years old Male with underlying Hypertension and history of COVID 19, presented with dyspnea. Clinically he appears tachypnoeic, hypertensive and tachycardic. Systemic examination was unremarkable. Electrocardiogram showed sinus tachycardia with S1Q3T3. Chest xray showed no widened mediastinum and clear lung field. Echocardiogram showed aortic root was 4.5cm, minimal pericardial effusion, descending aorta was 2.2 x 2.4 cm, abdominal aorta showed intimal flap, no RV dilatation. CTPA and CTA were done and showed bilateral lower lobe segmental branch PE and extensive AD from aortic root to iliac artery. This patient was treated as PE and chronic AD(cAD), and was started on anti-coagulant.

Figure 1 shows aortic root 4.5cm

Discussion

PE as a complication of COVID-19 is well documented and leads to high mortality. Typical presentation is dyspnea and chest pain. Treatment is anticoagulant and thrombolysis for massive/submassive PE. AD may also present similarly but treatment is totally the opposite. Although rare, PE and AD can present concomitantly and poses a management conundrum(3). An acute AD(AAD) is associated with very high mortality while cAD have a slightly better prognosis. cAD presentation can be vague, non-specific and usually occurs after 2 weeks. The general prognosis depends on the location of the dissection and the extent to which corresponding vessels(4). In view of the diagnoses, our patient was treated conservatively with close monitoring, vigilant BP control and frequent consultation with cardiologist. Patient was started on anti-coagulant prior to discharge with early follow up.

Figure 2. The arrow show intimal flap suggestive of dissection.

Conclusion

AD and PE can mimic each other and could present simultaneously especially where there is a history of hypercoagulable state in COVID 19. Therefore, clinicians should have a high degree of clinical suspicion in approaching such cases(3).

Acknowledgment

We would like to show our appreciation to the Director General of Health Tan Sri Dato' Seri Dr Noor Hisham Abdullah and Dr Zhen Pang Chang from Radiology Department General Hospital Melaka.

Declaration of conflict for all authors

All authors declared no conflict of interest.

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